Appendix 45

Meadowbank and Whale Tail 2023 QAQC Results

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LIST OF TABLES

SECTION 1. QAQC SAMPLING

As required by NIRB Project Certificate No.004, Condition 23: ***ensure that water quality monitoring performed at locations within receiving waters that allow for an assimilative capacity assessment of concern to regulators, be carried out by an independent contractor and submitted to an independent accredited lab for analysis, on a type and frequency basis as determined by the NWB; results of analysis shall be provided to the NWB and NIRB's Monitoring Officer.***

And

As required by NWB Water License 2AM-MEA1530 Part I, Item 17: ***The Licensee shall annually review the approved QA/QC Plan and modify the Plan as necessary. Proposed changes shall be submitted to an Accredited Laboratory for approval.***

And

As required by NWB Water License 2AM-WTP1830 Part I, Item 20: ***The Licensee shall annually review the approved QA/QC Plan and modify the Plan as necessary. Proposed changes shall be submitted to an Accredited Laboratory for approval.***

The objective of quality assurance and quality control (QA/QC) program is to assure that the chemical data collected are representative of the material being sampled, are of known quality, are properly documented, and are scientifically defensible. Data quality was assured throughout the collection and analysis of samples using specified standardized procedures, by the employment of accredited laboratories, and by staffing the program with experienced technicians.

Most of the chemical analyses for Meadowbank and Whale Tail sites were performed by Bureau Veritas in Ontario, an accredited facility. All data from BV lab underwent a vigorous internal QA/QC process, including the use of spiked samples and duplicate samples. All QA/QC data passed the laboratories acceptable limits. The laboratory certificates of quality control can be provided on request for Meadowbank and Whale Tail.

Toxicity tests were performed by Bureau Veritas in Quebec and AquaTox/Nautilus[*] Environmental in Ontario, while sublethal tests were performed by Aquatox/Nautilus Environmental. Testing was conducted as stipulated in the corresponding Environment Canada Biological Test Methods. QA/QC measures implemented by the lab, including the use of reference toxicants, met the acceptable limits. Toxicity reports for Meadowbank and Whale Tail can be provided on request.

Agnico Eagle also require the services of laboratory as Bureau Veritas in Edmonton, Alberta, H2Lab in Val-D'Or, Quebec and SGS in Lakefield, Ontario. Agnico Eagle also uses the services of ALS for many of the CREMP and AEMP water quality analysis.

Field blanks (FB) are laboratory bottles filled with deionized water in the field, and then treated as a normal sample (N). They are used to identify errors or contamination in sample collection and analysis. Trip blank (TB) are laboratory pre-filed bottles with DI water carried to the sampling location and are left unopened. Duplicate field water quality samples (FD) are collected simultaneously in the field and used to assess sampling variability and sample homogeneity.

[*] AquaTox amalgamed with Nautilus in 2023

The QA/QC Plan was revised in February 2024 (Version 9) and can be found in Appendix 44 of the 2023 Annual Report.

1.1 MEADOWBANK SITE

In 2023, 238 water samples were collected (excluding Groundwater and CREMP monitoring programs), 36 duplicates, 36 field blanks and 16 trip blanks, which represents 15% of duplicate, 15% of field blanks and 7% of trip blanks which is above the QA/QC duplicate program objective of 10% but slightly under target for the QAQC objective of 10% for trip blanks. Most sampling stations are sampled more frequently than planned earlier in the year and as set out in the Water License requirements. These additional samples contributed to achieving less than 10% objective of trip blank samples collected in 2023. Agnico Eagle will review the internal process and adjust the monitoring requirements on site to ensure the trip blank objective of 10% or more will be collected in 2024.

The following presents the percentage of duplicate and field samples collected from each of the monitoring programs:

- MDMER and EEM monitoring programs: 6 duplicate samples, 6 field blanks and 3 trip blanks were collected from a total of 25 samples, representing 24% of duplicate, 24% of field blanks and 12% of trip blanks;

- STP monitoring program: 3 duplicate samples, 3 field blanks and 3 trip blanks were collected from a total of 36 samples, representing 8.33 % of duplicate, field blanks and trip blanks. As per the QAQC Plan, one (1) field duplicate and one (1) field blank are to be collected per monitoring station. The objective of the STP monitoring program is met;

- Surface water monitoring programs: 27 duplicate samples, 27 field blanks and 10 trip blanks were collected from a total of 177 samples, representing 15 % for duplicate and field blanks and 6% for trip blanks;

- Groundwater Monitoring Program; Duplicates were collected for each station during the July and September monitoring sessions. One (1) field blank and one (1) trip blank were also collected for each groundwater monitoring session (refer to Section 4.6 of the 2023 Meadowbank Groundwater Monitoring Report – Appendix 35 of the 2023 Annual Report), which aligns with the frequency outlined in the current QAQC Management Plan (Appendix 44 of the 2023 Annual Report); and

- Core Receiving Environment Monitoring Program (CREMP); A combined total of 16 duplicates were collected between the Meadowbank Lakes, Baker Lake, and the Whale Tail Lakes. Travel blanks (TB), de-ionized (DI) blanks and Equipment Blanks were submitted for all sampling events (refer to Appendix 26 of the 2023 Annual Report for the 2023 CREMP Report), which aligns with the frequency outlined in the current QAQC Management Plan (Appendix 44 of the 2023 Annual Report).

Analytical precision is a measurement of the variability associated with duplicate analyses of the same sample in the laboratory. Duplicate results were assessed using the relative percent difference (RPD) between measurements. The equation used to calculate a RPD is:

RPD = (A-B)/ ((A+B)/2)*100; where: A = field sample; B = duplicate sample.

Large variations in RPD values are often observed between duplicate samples when the concentrations of analytes are low and approaching the detection limit. Consequently, a RPD of 20% for concentrations of field and duplicates samples that both exceed 10x the method detection limit (MDL) is considered notable. The analytical precision of one QA/QC sampling event is characterized as:

- High, when less than 10% of the parameters have variations that are notable;
- Medium, when 10 to 30% of the parameters have variations that are notable;
- Low, when more than 30% of the parameters have variations that are notable.

Meadowbank results of the QA/QC data are presented below in Tables 1-1 to 1-29 for the MDMER and EEM, Surface Water, and STP monitoring programs. The following is a summary of the QA/QC results, per sampling program:

- MDMER and EEM (Tables 1-1 to 1-4): All the duplicate samples collected were considered as having high analytical precision.
- Surface Water (Tables 1-5 to 1-26 and 1-28 to 1-29): All QA/QC sampling events conducted within the surface water quality program are rated as having high analytical precision except for three (3) samples having a medium analytical precision of 10%, 14% and 17% and one (1) sample having a low analytical precision of 58%.
- STP (Table 1-27): All the duplicate samples collected were considered as having high analytical precision.

RPD values were also calculated for field blanks (FB) and lab blanks (LB) in 2023 as the QA/QC Plan. All field blank samples are considered to have high analytical precision.

The QA/QC plan was followed, and samples were collected by qualified technicians. Given the high number of samples collected in 2023, it is common to have some RPD exceedances as a result of the discrete differences in the original and field duplicates. Given the variability of these exceedances (occurring with different parameters, on different dates for different sampling programs) and the high number of successful samples, it is evident that field QA/QC standards during water sampling were maintained during sampling in 2023. Agnico Eagle environmental technicians will continue to follow standard QA/QC procedures for surface water sampling that requires the use of sample bottles that are provided by an accredited laboratory, proper handling, and storage of bottles to prevent cross-contamination between areas and, if appropriate, thoroughly rinsing the sample containers with sample water prior to sample collection.

Each equipment used for field measurement are calibrated prior usage. Calibration datasheets are kept for future reference, if needed.

Table 1-1 Meadowbank 2023 MDMER QAQC (ST-MMER-3)

ST-MMER-3	Sample Date		1/2/2023						2/6/2023							4/3/2023						
Parameter	**Unit**	**MDL**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**	**Trip Blank**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**	**Trip Blank**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters																						
TSS	mg/L	1	1	1	3	2	**40.00**	0.00	1	1	1	7	4	**54.55**	0.00	1	1	1	2	2	0.00	0.00
Major Ions																						
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.00065	**26.09**	0.00	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Nutrients																						
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.0004	0.0004	0.00	-	-	-	-	0.00099	0.00099	0.00	-	-	-	-	0.0015	0.0015	0.00	-
Total Metals																						
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00091	0.00093	2.17	0.00	0.0001	0.0001	0.0001	0.00093	0.00105	12.12	0.00	0.0001	0.0001	0.0001	0.00187	0.00198	5.71	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00121	0.00148	**20.07**	0.00	0.0005	0.0005	0.0005	0.00129	0.00136	5.28	0.00	0.0005	0.0005	0.0005	0.00093	0.00164	**55.25**	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Radionuclides																						
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance							0%	0%						0%	0%						0%	0%

RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10x the MDL and the other one exceeds 10x the MDL.

Table 1-2 Meadowbank 2023 EEM QAQC Effluent Characterization (ST-MMER-3-EEM)

ST-MMER-3-EEM	Sample Date		1/9/2023						
Parameter	**Unit**	**MDL**	**Trip Blank**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	30.8	30.3	1.64	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	29	28	3.51	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	1.5	1.1	**30.77**	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	6.4	6	6.45	0.00
Nutrients									
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.0021	0.0028	**28.57**	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.0082	0.003	0.09	0.0865	3.97	**92.86**
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.123	0.12	2.47	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0033	0.0031	6.25	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00036	0.00036	0.00	0.00
% Exceedance*								0%	0%

RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10x the MDL and the other one exceeds 10x the MDL.

Table 1-3 Meadowbank 2023 EEM QAQC Exposure Area Second Portage (ST-MMER-3-EEM-SPLE)

ST-MMER-3-SPLE	Sample Date		2/13/2023					
Parameter	**Unit**	**MDL**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	15.3	15.6	1.94	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	11	11	0.00	0.00
TSS	mg/L	1	1	1	1	2	**66.67**	0.00
Major Ions								
Chloride	mg/L	1	1	1	1	1	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	9.3	7.5	21.43	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.00044	0.00044	0.00	-
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.00463	0.00351	**27.52**	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.000461	0.00046	0.22	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Cobalt	mg/L	0.000005	0.000005	0.000005	0.0000075	0.0000066	12.77	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.000722	0.000646	11.11	0.00
Iron	mg/L	0.001	0.001	0.001	0.0068	0.0056	19.35	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.00044	0.000232	61.90	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.000564	0.000502	11.63	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.000134	0.000136	1.48	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.000498	0.000531	6.41	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.00004	0.00	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.000002	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.0000475	0.0000458	3.64	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00095	0.00038	**85.71**	0.00
Radionuclides								
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							7%	0%

RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10x the MDL and the other one exceeds 10x the MDL.

Table 1-4 Meadowbank 2023 EEM QAQC Reference Area Third Portage Lake (ST-MMER-1-EEM-TPS)

ST-MMER-1-EEM-TPS	Sample Date		2/13/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	10.2	10.2	0.00	-
Total alkalinity, as $CaCO_3$	mg/L	1	1.7	1	6.8	7.3	7.09	**51.85**
TSS	mg/L	1	1	1	1	1	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	1	1	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	6.1	4.6	*28.04*	0.00
Nutrients and Chlorophyll a								
Ammonia Nitrogen (as N)	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.0004	0.0004	0.00	-
Nitrate (as N)	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Total phosphorus	mg P/L	0.001	0.0013	0.001	0.001	0.001	0.00	**26.09**
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.00335	0.00328	2.11	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.000218	0.000196	10.63	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Cobalt	mg/L	0.000005	0.000005	0.000005	0.0000053	0.000005	5.83	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.000416	0.000412	0.97	0.00
Iron	mg/L	0.001	0.001	0.001	0.0022	0.0021	4.65	0.00
Lead	mg/L	0.000005	0.0000107	0.000005	0.0000755	0.0000787	4.15	**72.61**
Manganese	mg/L	0.00005	0.00005	0.00005	0.0005	0.000496	0.80	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.000105	0.000109	3.74	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.000439	0.000417	5.14	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.00004	0.00	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.000002	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.000038	0.0000391	2.85	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00029	0.00011	**90.00**	0.00
Radionuclides								
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

RPD = Relative Percent Difference; MDL: Method Detection Limit

All value "<DL" have been replaced by "DL".

* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.

Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.

Italic values correspond to a RPD higher than 20% and for which one of the result is within 10x the MDL and the other one exceeds 10x the MDL.

Table 1-5 Meadowbank 2023 Non-Contact Water Diversion Ditch QAQC (ST-5)

Parameter	Sample Date		6/5/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
TSS	mg/L	1	1	1	2	2	0.00	0.00
Major Ions								
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00053	0.0005	5.83	0.00
Sulfate	mg/L	1	1	1	6.6	6.7	1.50	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0945	0.0969	2.51	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0033	0.00344	4.15	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00338	0.00364	7.41	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00034	0.00035	2.90	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0032	0.0033	3.08	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Radionuclides								
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-6 Meadowbank 2023 Non-Contact Water Diversion Ditch QAQC (ST-6)

Parameter	Sample Date		6/5/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
TSS	mg/L	1	1	1	2	1	**66.67**	0.00
Major Ions								
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00107	0.00082	**26.46**	0.00
Sulfate	mg/L	1	1	1	8.9	7.7	14.46	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0782	0.0684	13.37	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00093	0.00089	4.40	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00171	0.00164	4.18	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0027	0.0026	3.77	0.00
Zinc	mg/L	0.005	0.005	0.005	0.0077	0.0072	6.71	0.00
Radionuclides								
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

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Table 1-7 Meadowbank 2023 East Dike Seepage Discharge QAQC (ST-8)

Parameter	Sample Date		1/2/2023						2/6/2023							4/3/2023						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																						
TSS	mg/L	1	1	1	3	2	**40.00**	0.00	1	1	1	7	4	**54.55**	0.00	1	1	1	2	2	0.00	0.00
Major Ions																						
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00	0.0005	0.0005	0.0005	0.0005	0.00065	**26.09**	0.00	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	6.4	6.4	0.00	0.00	0.5	0.5	0.5	6.4	6.5	1.55	0.00	0.5	0.5	0.5	6.6	6.6	0.00	0.00
Total Metals																						
Aluminum	mg/L	0.003	0.003	0.003	0.0482	0.052	7.58	0.00	0.003	0.003	0.003	0.105	0.103	1.92	0.00	0.0143	0.003	0.003	0.0479	0.0501	4.49	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00091	0.00093	2.17	0.00	0.0001	0.0001	0.0001	0.00093	0.00105	12.12	0.00	0.0001	0.0001	0.0001	0.00187	0.00198	5.71	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00121	0.00148	**20.07**	0.00	0.0005	0.0005	0.0005	0.00129	0.00136	5.28	0.00	0.0005	0.0005	0.0005	0.00093	0.00164	**55.25**	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Radionuclides																						
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%						0%	0%						0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-8 Meadowbank 2023 Portage WRSF QAQC (ST-16)

Parameter	Sample Date		6/12/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	88.5	88.9	0.45	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	51	58	12.84	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	1	-	51	57	11.11	-
TDS	mg/L	10	10	10	10	160	130	20.69	0.00
TSS	mg/L	1	1	1	1	9	10	10.53	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	0.4	4.5	4.4	2.25	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.44	0.4	4.3	4.4	2.30	9.52
Colour	TCU	2	2	2	2	20	20	0.00	0.00
Major Ions									
Bromide	mg/L	1	1	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	1	1.1	1.1	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.00292	0.00242	18.73	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.17	0.17	0.00	0.00
Silica	mg/L	0.05	2.5	2.5	0.05	2.8	2.6	7.41	*192.16*
Sulfate	mg/L	0.5	0.54	0.75	0.77	46	46	0.00	2.63
Thiocyanate	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Thiosulphates	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.17	0.17	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.55	0.55	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.018	0.01	**57.14**	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.1	0.49	0.62	**23.42**	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.013	0.014	7.41	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.207	0.199	3.94	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.00072	0.00074	2.74	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0157	0.0157	0.00	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0129	0.0133	3.05	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000012	0.000012	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	0.05	-	20.8	20.8	0.00	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.0028	0.0027	3.64	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.00074	0.00075	1.34	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00773	0.00769	0.52	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.844	0.829	1.79	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00025	0.00024	4.08	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	0.05	-	8.89	8.97	0.90	-
Manganese	mg/L	0.001	0.001	0.001	0.001	0.114	0.115	0.87	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0096	0.0097	1.04	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0075	0.0075	0.00	0.00
Potassium (total)	mg/L	0.05	0.05	0.05	-	4.58	4.74	3.43	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00037	0.00038	2.67	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	0.05	-	2.76	2.77	0.36	-
Strontium	mg/L	0.001	0.001	0.001	0.001	0.0973	0.0973	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.0066	0.0062	6.25	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00157	0.00159	1.27	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.015	0.0085	**55.32**	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.00077	0.00076	1.31	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0124	0.0105	16.59	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0135	0.013	3.77	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.00054	0.00054	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.0002	0.00567	0.00557	1.78	0.00
Iron	mg/L	0.005	0.005	0.005	0.005	0.307	0.241	24.09	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.116	0.113	2.62	0.00

Parameter	Sample Date		6/12/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0104	0.0098	5.94	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0063	0.0062	1.60	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00038	0.00036	5.41	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.001	0.11	0.107	2.76	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00164	0.00159	3.10	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								4%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-9 Meadowbank 2023 NP2-South QAQC (NP2-South)

Parameter	Sample Date		6/12/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	63.1	66.8	5.70	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	52	53	1.90	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	1	-	52	52	0.00	-
TDS	mg/L	10	10	10	10	95	75	**23.53**	0.00
TSS	mg/L	1	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	0.4	4	4.1	2.47	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.57	0.4	3.7	3.8	2.67	**35.05**
Colour	TCU	2	2	2	2	9	9	0.00	0.00
Major Ions									
Bromide	mg/L	1	1	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	1	1	1	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.00076	0.0005	0.0005	0.00099	**65.77**	**41.27**
Cyanide (free)	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	0.0005	0.00052	0.0005	3.92	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.13	0.12	8.00	0.00
Silica	mg/L	0.05	0.5	0.5	0.05	0.97	0.93	4.21	**163.64**
Sulfate	mg/L	0.5	0.53	0.81	0.77	23	23	0.00	5.06
Thiocyanate	mg/L	0.2	0.42	0.2	0.2	0.2	0.2	0.00	0.00
Thiosulphates	mg/L	0.2	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.1	0.24	0.19	**23.26**	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.0034	0.0018	**61.54**	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.005	0.003	0.0289	0.0255	12.50	**50.00**
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00169	0.00177	4.62	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0052	0.0055	5.61	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	0.05	-	16.4	17.3	5.34	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00236	0.0025	5.76	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.094	0.092	2.15	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	0.05	-	5.4	5.74	6.10	-
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0123	0.0129	4.76	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0013	0.0014	7.41	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.006	0.0062	3.28	0.00
Potassium (total)	mg/L	0.05	0.05	0.05	-	1.52	1.6	5.13	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	0.05	-	1.94	2.07	6.48	-
Strontium	mg/L	0.001	0.001	0.001	0.001	0.0641	0.067	4.42	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00125	0.00127	1.59	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0054	0.0055	1.83	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00189	0.00192	1.57	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0058	0.0057	1.74	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.00044	0.00071	**46.96**	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.0002	0.00283	0.00307	8.14	0.00
Iron	mg/L	0.005	0.005	0.005	0.005	0.0301	0.0309	2.62	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00023	13.95	0.00

Parameter	Sample Date		6/12/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0116	0.0117	0.86	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0017	0.0018	5.71	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0066	0.0069	4.44	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00017	0.00027	**45.45**	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.001	0.0733	0.0739	0.82	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0014	0.00141	0.71	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-10 Meadowbank 2023 North Portage Pit QAQC (ST-17)

Parameter	Sample Date		5/15/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	44	98	76.06	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	37	50	29.89	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	1	-	37	50	29.89	-
TDS	mg/L	10	10	10	10	120	460	117.24	0.00
TSS	mg/L	1	1	1	1	97	87	10.87	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	0.4	1.1	3	**92.68**	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	0.4	1.5	2.5	**50.00**	0.00
Sodium Adsorption Ratio (salinity in water)	-		NC	NC	-	0.9	2	75.86	-
Oxidation-Reduction Potential	mV		300	270	-	210	390	60.00	-
Major Ions									
Bromide	mg/L	1	1	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	1	15	49	106.25	0.00
Cyanide	mg/L	0.0005	0.00077	0.0005	0.0005	0.0898	0.115	24.61	0.00
Cyanide (free)	mg/L	0.002	0.002	0.002	0.002	0.15	0.18	18.18	0.00
Cyanide (WAD)	mg/L	0.0005	0.00066	0.0011	0.0005	0.068	0.082	18.67	**75.00**
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Silica	mg/L	0.05	0.5	0.25	0.05	0.82	0.98	17.78	**133.33**
Sulfate	mg/L	0.5	0.5	0.5	0.5	50	100	66.67	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.69	4.3	144.69	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.27	0.82	**100.92**	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.013	0.04	**101.89**	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.1	1.2	5.6	129.41	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.055	0.05	9.52	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.0005	0.0005	0.00099	0.0005	1.58	1.24	24.11	**65.77***
Antimony	mg/L	0.00002	0.00002	0.00002	0.00002	0.000257	0.000544	71.66	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00002	0.00814	0.0121	39.13	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.00005	0.0105	0.0115	9.09	**85.71**
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000046	0.000046	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.011	0.02	**58.06**	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000172	0.0000198	14.05	0.00
Calcium (total)	mg/L	0.01	0.05	0.077	-	13.7	33.3	83.40	-
Chromium	mg/L	0.0001	0.00084	0.0001	0.0001	0.0179	0.0186	3.84	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00005	0.0223	0.121	137.75	0.00*
Iron	mg/L	0.001	0.0022	0.0016	0.001	3.24	3.09	4.74	**46.15***
Lead	mg/L	0.000005	0.000005	0.000005	0.000005	0.00258	0.00215	18.18	0.00*
Lithium	mg/L	0.0005	0.0005	0.0005	0.0005	0.00239	0.00235	1.69	0.00
Magnesium (total)	mg/L	0.01	0.05	0.05	-	2.35	3.59	41.75	-
Manganese	mg/L	0.00005	0.00005	0.000056	0.00005	0.0916	0.112	20.04	11.32*
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00005	0.00683	0.0135	65.62	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.00002	0.0287	0.0763	90.67	0.00*
Potassium (total)	mg/L	0.01	0.05	0.05	-	3.18	9.16	96.92	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.000747	0.00524	150.09	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.000005	0.000028	0.000032	13.33	0.00*
Sodium (total)	mg/L	0.01	0.05	0.05	-	4.7	22.3	130.37	-
Strontium	mg/L	0.00005	0.00005	0.000057	0.00005	0.063	0.143	77.67	13.08
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.0000108	0.0000144	**28.57**	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.025	0.0237	5.34	0.00*
Uranium	mg/L	0.000002	0.000002	0.000002	0.000002	0.00072	0.00182	86.61	0.00*
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.00269	0.00258	4.17	0.00
Zinc	mg/L	0.0001	0.0001	0.00013	0.0001	0.0091	0.0096	5.35	**26.09***
Dissolved Metals									
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0005	0.0223	0.0248	10.62	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.00002	0.000465	0.000262	55.85	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00002	0.00294	0.0021	33.33	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.00002	0.00666	0.00383	53.96	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000013	0.00002	**42.42**	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.015	0.01	**40.00**	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000138	0.0000118	15.63	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00005	0.0687	0.0196	111.21	0.00
Iron	mg/L	0.001	0.001	0.001	0.001	0.0103	0.0104	0.97	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000581	0.000059	1.54	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.0005	0.00116	0.00099	15.81	0.00
Manganese	mg/L	0.00005	0.00005	0.000081	0.00005	0.0852	0.0709	18.32	**47.33**
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00005	0.00755	0.00415	58.12	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.00002	0.03	0.00968	102.42	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.00389	0.00123	103.91	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000455	0.0000564	*21.39*	0.00
Strontium	mg/L	0.00005	0.00005	0.000147	0.00005	0.135	0.0726	60.12	**98.48**
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.0000042	0.000005	17.39	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.000002	0.00128	0.000525	83.66	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.0001	0.00478	0.00501	4.70	0.00
% Exceedance*								58%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-11 Meadowbank 2023 South Portage Pit QAQC (ST-19)

Parameter	Sample Date		1/15/2023						4/9/2023	
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original
Conventional Parameters										
Hardness, as CaCO3	mg/L	0.5	2.12	-	1610	1590	1.25	-	0.5	1660
Total alkalinity, as CaCO3	mg/L	1	1	1	100	100	0.00	0.00	1.5	92
Carbonate, as CaCO3	mg/L	1	1	-	1.6	2.1	**27.03**	-	1	< 1.0
Bicarbonate, as CaCO3	mg/L	1	1	-	99	100	1.01	-	1.5	92
TDS	mg/L	10	10	10	4090	3970	2.98	0.00	10	4530
TSS	mg/L	1	1	1	25	23	8.33	0.00	1	54
Total organic carbon	mg/L	0.4	0.4	0.4	80	81	1.24	0.00	0.4	89
Dissolved organic carbon	mg/L	0.4	0.47	0.4	74	73	1.36	16.09	0.4	82
Sodium Adsorption Ratio (salinity in water)	-		NC	-	7.1	7.2	1.40	-	0.52	7.1
Oxidation-Reduction Potential	mV	0	250	-	180	190	5.41	-	210	200
Major Ions										
Bromide	mg/L	1	1	0.1	1.7	1.7	0.00	**163.64**	1	5
Chloride	mg/L	1	1	1	580	600	3.39	0.00	1	810
Cyanate	mg/L	0.1	0.05	-	2.3	7.5	106.12	-	0.05	15
Cyanide	mg/L	0.0005	0.0005	0.0005	3.63	3.64	0.28	0.00	0.0005	10.1
Cyanide (free)	mg/L	0.002	0.0027	0.002	0.055	-	-	**29.79**	0.002	1.6
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	1.2	1.1	8.70	0.00	0.0005	4.2
Fluoride	mg/L	0.1	0.1	0.1	0.13	0.15	14.29	0.00	0.1	0.12
Silica	mg/L	0.05	0.05	0.05	6.8	6.6	2.99	0.00	0.05	5.5
Sulfate	mg/L	0.5	0.5	0.5	2300	2200	4.44	0.00	0.5	2300
Nutrients										
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	60	60	0.00	0.00	0.05	64
Nitrate	mg N/L	0.1	0.1	0.1	18.3	18.5	1.09	0.00	0.1	25.3
Nitrite	mg N/L	0.01	0.01	0.01	0.335	0.327	2.42	0.00	0.01	0.323
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	130	130	0.00	0.00	0.14	160
Total phosphorus	mg P/L	0.001	0.0011	0.001	0.05	0.1	66.67	9.52	0.001	0.034
Orthophosphate	mg P/L	0.01	0.01	0.01	0.024	0.025	4.08	0.00	0.01	0.041
Total Metals										
Aluminum	mg/L	0.003 /0.0005*	0.0802*	0.0005*	0.213	0.231	8.11	*197.52**	0.003	1.07
Antimony	mg/L	0.00002	0.00002	0.00002	0.0118	0.0101	15.53	0.00	0.00002	0.00955
Arsenic	mg/L	0.00002	0.000077	0.000033	0.178	0.18	1.12	**80.00**	0.00002	0.107
Barium	mg/L	0.00002	0.000683	0.00005	0.158	0.159	0.63	*172.71*	0.00005	0.17
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00005	0.00005	0.00	0.00	0.00001	< 0.000050
Boron	mg/L	0.01	0.01	0.01	0.369	0.366	0.82	0.00	0.01	0.34
Cadmium	mg/L	0.000005	0.000005	0.000005	0.00023	0.000246	6.72	0.00	0.000005	0.000344
Calcium (total)	mg/L	0.01	0.681	-	606	598	1.33	-	0.25	628
Chromium	mg/L	0.0001	0.00025	0.0001	0.00745	0.00699	6.37	**85.71**	0.00067	0.037
Cobalt	mg/L	0.00001 /0.000005*	0.0000309*	0.000005*	0.667	0.656	1.66	**144.29***	0.00001	0.537
Copper	mg/L	0.0001 /0.00005*	0.000088*	0.00005*	5.55	5.58	0.54	**55.07***	0.0001	7.56
Iron	mg/L	0.005 /0.001*	0.067*	0.001*	1.76	1.73	1.72	*194.12**	0.005	4.62
Lead	mg/L	0.00002 /0.000005*	0.000064*	0.000005*	0.00182	0.00183	0.55	*171.01**	0.00002	0.00757
Lithium	mg/L	0.0005	0.0005	0.0005	0.0025	0.0025	0.00	0.00	0.0005	0.003
Magnesium (total)	mg/L	0.01	0.103	-	24.1	24.1	0.00	-	0.25	23
Manganese	mg/L	0.0001 /0.00005*	0.00266*	0.00005*	0.0476	0.0483	1.46	*192.62**	0.0001	0.13
Mercury	mg/L	0.0001 /0.00001*	0.00001*	0.00001*	0.0001	0.0001	0.00	0.00*	0.00001*	< 0.00010
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.128	0.128	0.00	0.00	0.000778	0.126
Nickel	mg/L	0.0001 /0.00002*	0.000317*	0.00002*	1.18	1.18	0.00	*176.26**	0.00302	3.01
Potassium (total)	mg/L	0.01	0.05	-	236	234	0.85	-	0.25	232
Selenium	mg/L	0.00004	0.00004	0.00004	0.223	0.223	0.00	0.00	0.00004	0.251
Silver	mg/L	0.00001 /0.000005*	0.000005*	0.000005*	0.000072	0.000063	13.33	0.00*	0.00001	0.000259
Sodium (total)	mg/L	0.01	0.05	-	632	615	2.73	-	0.25	620
Strontium	mg/L	0.00005	0.00124	0.00005	3.11	3.12	0.32	*184.50*	0.00005	3.74
Thallium	mg/L	0.000002	0.000002	0.000002	0.00001	0.000013	**26.09**	0.00	0.000002	0.000041
Tin	mg/L	0.0002	0.0002	0.0002	0.001	0.001	0.00	0.00	0.0002	< 0.0010
Titanium	mg/L	0.002 /0.0005*	0.00176*	0.0005*	0.01	0.01	0.00	**111.50***	0.002	0.064
Uranium	mg/L	0.000005 /0.000002*	0.0000041*	0.000002*	0.0142	0.0142	0.00	**68.85***	0.000005	0.0129
Vanadium	mg/L	0.0002	0.0002	0.0002	0.001	0.001	0.00	0.00	0.0002	0.0038
Zinc	mg/L	0.001 /0.0001*	0.00076*	0.0001*	0.005	0.005	0.00	**153.49***	0.001	< 0.0050
Dissolved Metals										
Aluminum	mg/L	0.0005	0.00762	0.0005	0.0128	0.0135	5.32	*175.37*	0.0005	0.0139
Antimony	mg/L	0.00002	0.00002	0.00002	0.0127	0.0165	26.03	0.00	0.00002	0.0148
Arsenic	mg/L	0.00002	0.00002	0.000031	0.185	0.184	0.54	**43.14**	0.00002	0.102
Barium	mg/L	0.00002	0.000257	0.00002	0.159	0.156	1.90	*171.12*	0.00002	0.173
Beryllium	mg/L	0.00001	0.00001	0.00001	0.000082	0.00005	**48.48**	0.00	0.00001	< 0.000050
Boron	mg/L	0.01	0.01	0.01	0.324	0.33	1.83	0.00	0.01	0.32
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000122	0.000147	18.59	0.00	0.000005	0.000328
Chromium	mg/L	0.0001	0.00015	0.0001	0.0005	0.00055	9.52	**40.00**	0.0001	< 0.00050
Cobalt	mg/L	0.000005	0.0000057	0.000005	0.66	0.718	8.42	13.08	0.000005	0.325
Copper	mg/L	0.00005	0.000058	0.00005	5.01	5.49	9.14	14.81	0.00005	6.27
Iron	mg/L	0.001	0.0056	0.001	0.952	1.17	20.55	**139.39**	0.001	1.15
Lead	mg/L	0.000005	0.0000305	0.000005	0.000344	0.000371	7.55	**143.66**	0.000005	0.000842
Lithium	mg/L	0.0005	0.0005	0.0005	0.0025	0.0025	0.00	0.00	0.0005	< 0.0025
Manganese	mg/L	0.00005	0.000877	0.00005	0.0325	0.0321	1.24	*178.43*	0.00005	0.0359
Mercury	mg/L	0.0001 /0.00001*	0.00001*	0.00001*	0.0001	0.0001	0.00	0.00*	0.00001*	< 0.00010
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.13	0.131	0.77	0.00	0.00005	0.129
Nickel	mg/L	0.00002	0.000076	0.00002	1.12	1.13	0.89	**116.67**	0.00002	2.95
Selenium	mg/L	0.00004	0.00004	0.00004	0.253	0.249	1.59	0.00	0.00004	0.3
Silver	mg/L	0.000005	0.000005	0.000005	0.000268	0.000315	16.12	0.00	0.000005	0.000238
Strontium	mg/L	0.00005	0.00122	0.00005	3.24	3.2	1.24	*184.25*	0.00005	3.92
Thallium	mg/L	0.000002	0.000002	0.000002	0.000012	0.00001	18.18	0.00	0.000002	< 0.000010
Tin	mg/L	0.0002	0.0002	0.0002	0.001	0.001	0.00	0.00	0.0002	< 0.0010
Titanium	mg/L	0.0005	0.0005	0.0005	0.0025	0.0025	0.00	0.00	0.0005	< 0.0025
Uranium	mg/L	0.000002	0.000002	0.000002	0.0137	0.0137	0.00	0.00	0.000002	0.0133
Vanadium	mg/L	0.0002	0.0002	0.0002	0.001	0.001	0.00	0.00	0.0002	< 0.0010
Zinc	mg/L	0.0001	0.00075	0.0001	0.00597	0.00154	117.98	**152.94**	0.0001	0.00721
% Exceedance*							6%	0%		

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-12 Meadowbank 2023 Goose Pit QAQC (ST-20)

Parameter	Sample date		7/23/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	351	359	2.25	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	71	72	1.40	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	-	71	71	0.00	-
TDS	mg/L	10	10	10	895	940	4.90	0.00
TSS	mg/L	1	1	1	10	10	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	7.7	7.4	3.97	0.00
Dissolved organic carbon	mg/L	0.4	0.5	0.4	6	0.4	*175.00*	**22.22**
Sodium Adsorption Ratio (salinity in water)	-		NC	-	2.5	2.5	0.00	-
Oxidation-Reduction Potential	mV	0	500	-	370	370	0.00	-
Major Ions								
Bromide	mg/L	1	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	56	57	1.77	0.00
Cyanide	mg/L	0.0005	0.00052	0.0005	0.0245	0.0303	21.17	3.92
Cyanide (free)	mg/L	0.002	0.0035	0.002	0.014	0.013	7.41	**54.55**
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	0.02	0.025	22.22	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.28	0.27	3.64	0.00
Silica	mg/L	0.05	0.05	0.05	4.3	4.7	8.89	0.00
Sulfate	mg/L	0.5	0.5	0.5	540	540	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	18	18	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.22	0.22	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.421	0.422	0.24	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	23	22	4.44	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.027	0.026	3.77	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.048	0.051	6.06	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.122	0.116	5.04	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.00722	0.00748	3.54	0.00
Arsenic	mg/L	0.00002	0.00002	0.000036	0.251	0.264	5.05	**57.14**
Barium	mg/L	0.00002	0.00002	0.00005	0.0324	0.0321	0.93	**85.71**
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000012	18.18	0.00
Boron	mg/L	0.01	0.01	0.01	0.088	0.088	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000272	0.0000154	**55.40**	0.00
Calcium (total)	mg/L	0.01	0.05	-	128	131	2.32	-
Chromium	mg/L	0.0001	0.0001	0.0001	0.00141	0.0011	24.70	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.0066	0.00642	2.76	0.00
Iron	mg/L	0.001	0.001	0.001	0.263	0.242	8.32	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000505	0.000382	27.73	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.00309	0.0032	3.50	0.00
Magnesium (total)	mg/L	0.01	0.05	-	7.56	7.75	2.48	-
Manganese	mg/L	0.00005	0.00005	0.00005	0.069	0.0693	0.43	0.00
Mercury	mg/L	0.0001 /0.00001*	0.00001*	0.00001*	0.0001	0.0001	0.00	0.00*
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.0455	0.0466	2.39	0.00
Nickel	mg/L	0.00002	0.000148	0.00002	0.0389	0.0409	5.01	**152.38**
Potassium (total)	mg/L	0.01	0.05	-	48.7	51	4.61	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.0159	0.0167	4.91	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.0000323	0.0000126	**87.75**	0.00
Sodium (total)	mg/L	0.01	0.05	-	96.8	100	3.25	-
Strontium	mg/L	0.00005	0.00005	0.00005	0.391	0.403	3.02	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000123	0.0000105	15.79	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.00521	0.00497	4.72	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.00627	0.00642	2.36	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.00051	0.00048	6.06	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00185	0.00114	47.49	0.00
Dissolved Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.0142	0.0167	16.18	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.00731	0.00727	0.55	0.00
Arsenic	mg/L	0.00002	0.00002	0.000024	0.237	0.234	1.27	18.18
Barium	mg/L	0.00002	0.00002	0.00002	0.0311	0.0314	0.96	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.092	0.087	5.59	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000359	0.0000344	4.27	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00014	**33.33**	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00337	0.00348	3.21	0.00
Iron	mg/L	0.001	0.001	0.001	0.0057	0.01	**54.78**	0.00
Lead	mg/L	0.000005	0.000005	0.0000069	0.0000192	0.0000364	**61.87**	**31.93**
Lithium	mg/L	0.0005	0.0005	0.0005	0.00302	0.00296	2.01	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.036	0.0359	0.28	0.00
Mercury	mg/L	0.0001 /0.00001*	0.00001*	0.00001*	0.0001	0.0001	0.00	0.00*
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.0459	0.0453	1.32	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.0318	0.032	0.63	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.0167	0.0163	2.42	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.0000181	0.0000194	6.93	0.00
Strontium	mg/L	0.00005	0.00005	0.00005	0.392	0.394	0.51	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000115	0.0000119	3.42	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.0000041	0.0000027	0.00628	0.00622	0.96	**41.18**
Vanadium	mg/L	0.0002	0.0002	0.0002	0.00024	0.00025	4.08	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.0017	0.00378	75.91	0.00
% Exceedance*							8%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-13 Meadowbank 2023 Goose Pit Sump QAQC (ST-20 Pit Sump)

Parameter	Sample Date		7/23/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	221	220	0.45	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	63	63	0.00	0.00
TDS	mg/L	10	10	10	340	355	4.32	0.00
TSS	mg/L	1	1	1	15	13	14.29	0.00
Major Ions								
Chloride	mg/L	1	1	1	10	10	0.00	0.00
Cyanide	mg/L	0.0005	0.00059	0.0005	0.00099	0.00105	5.88	16.51
Fluoride	mg/L	0.1	0.1	0.1	0.36	0.36	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	170	170	0.00	0.00
Nutrients								
Total Ammonia	mg N/L	0.061	0.061	-	0.061	0.061	0.00	-
Nitrate	mg N/L	0.1	0.1	0.1	2.08	2.06	0.97	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.011	0.01	9.52	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.344	0.368	6.74	0.00
Arsenic	mg/L	0.00002	0.00002	0.000036	0.00245	0.00255	4.00	**57.14**
Barium	mg/L	0.00002	0.00002	0.00005	0.023	0.0227	1.31	**85.71**
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000206	0.0000231	11.44	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.00259	0.00302	15.33	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00133	0.00129	3.05	0.00
Iron	mg/L	0.001	0.001	0.001	0.681	0.729	6.81	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000473	0.000493	4.14	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.0606	0.0596	1.66	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.000065	0.00005	0.00468	0.00486	3.77	**26.09**
Nickel	mg/L	0.00002	0.000223	0.00002	0.0375	0.0387	3.15	*167.08*
Selenium	mg/L	0.00004	0.00004	0.00004	0.000476	0.000511	7.09	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.0000056	0.0000068	19.35	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000466	0.0000487	4.41	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00231	0.00316	31.08	0.00
% Exceedance*							4%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-14 Meadowbank 2023 TSF Water QAQC (ST-21)

Parameter	Sample Date		6/6/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	54.5	-	-	168	-	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	46	45	2.20	0.00
TDS	mg/L	10	10	10	390	395	1.27	0.00
TSS	mg/L	1	1	1	65	63	3.13	0.00
Major Ions								
Chloride	mg/L	1	1	1	11	11	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0144	0.0145	0.69	0.00
Cyanide (free)	mg/L	0.002	0.002	0.002	0.0059	0.0061	3.33	0.00
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	0.0039	0.004	2.53	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.18	0.18	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	220	220	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	1.2	1.2	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.96	0.96	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.059	0.061	3.33	0.00
Total Metals								
Aluminum	mg/L	0.003 /0.0005*	0.0417*	0.0005*	-	1.49	-	*195.26**
Arsenic	mg/L	0.00002	0.00002	0.00002	-	0.108	-	0.00
Barium	mg/L	0.00002	0.00441	0.00005	-	0.0217	-	*195.52*
Cadmium	mg/L	0.000005	0.0000101	0.000005	-	0.000138	-	**67.55**
Chromium	mg/L	0.0001	0.0056	0.0001	-	0.0551	-	*192.98*
Copper	mg/L	0.0001 /0.00005*	0.000134*	0.00005*	-	0.00992	-	**91.30***
Iron	mg/L	0.005 /0.001*	0.0049*	0.001*	-	4.66	-	**132.20***
Lead	mg/L	0.00002 /0.000005*	0.000037*	0.000005*	-	0.0151	-	**152.38***
Manganese	mg/L	0.0001 /0.00005*	0.00172*	0.00005*	-	0.249	-	*188.70**
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.0057	0.00005	-	0.0197	-	*196.52*
Nickel	mg/L	0.0001 /0.00002*	0.0244*	0.00002*	-	0.101	-	*199.67**
Selenium	mg/L	0.00004	0.00004	0.00004	-	0.000857	-	0.00
Silver	mg/L	0.00001 /0.000005*	0.000005*	0.000005*	-	0.000015	-	0.00*
Thallium	mg/L	0.000002	0.000002	0.000002	-	0.0000316	-	0.00
Zinc	mg/L	0.001 /0.0001*	0.002*	0.0001*	-	0.0051	-	*180.95**
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
[1-2] Different MDL used for this parameter.

Table 1-15 Meadowbank 2023 Vault RSF QAQC (ST-24)

Parameter	Sample Date		6/18/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	84.5	83.5	1.19	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	38	38	0.00	0.00
TDS	mg/L	10	10	10	125	140	11.32	0.00
TSS	mg/L	1	1	1	1	3	**100.00**	0.00
Major Ions								
Chloride	mg/L	1	1	1	1	1	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.00054	7.69	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.69	0.77	55	55	0.00	10.96
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.069	0.05	0.05	0.05	0.00	**31.93**
Nitrate	mg N/L	0.1	0.1	0.1	0.7	0.69	1.44	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.111	0.116	4.41	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00167	0.00164	1.81	0.00
Barium	mg/L	0.001	0.001	0.001	0.0095	0.0094	1.06	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000017	0.000021	**21.05**	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0029	0.0029	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	0.17	0.177	4.03	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00022	0.00026	16.67	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0187	0.0194	3.67	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0118	0.0116	1.71	0.00
Nickel	mg/L	0.001	0.001	0.001	0.003	0.003	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00017	0.00016	6.06	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-16 Meadowbank 2023 Vault Attenuation Pond QAQC (ST-25)

Parameter	Sample Date		7/10/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	55.3	56.2	1.61	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	26	27	3.77	0.00
TDS	mg/L	10	10	10	90	85	5.71	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	1.8	1.6	11.76	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	40	41	2.47	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0191	0.0161	17.05	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00038	0.00039	2.60	0.00
Barium	mg/L	0.001	0.001	0.001	0.011	0.0111	0.90	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0029	0.001	**97.44**	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00145	0.00146	0.69	0.00
Iron	mg/L	0.01	0.01	0.01	0.023	0.021	9.09	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0058	0.0058	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0059	0.0034	**53.76**	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0134	0.0022	*143.59*	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-17 Meadowbank 2023 Vault Pit Lake QAQC (ST-26)

Parameter	Sample Date		7/10/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	1.85	-	97.6	97.1	0.51	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	45	44	2.25	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	-	45	44	2.25	-
TDS	mg/L	10	10	10	135	145	7.14	0.00
TSS	mg/L	1	1	1	1	4	**120.00**	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	1.8	1.9	5.41	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	1.7	1.8	5.71	0.00
Major Ions								
Chloride	mg/L	1	1	1	5.8	5.4	7.14	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.00051	1.98	0.00
Cyanide (free)	mg/L	0.002	0.0031	0.002	0.0047	0.0045	4.35	**43.14**
Silica	mg/L	0.05	0.05	0.05	2.1	2.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	49	50	2.02	0.00
Nutrients								
Total Ammonia	mg N/L	0.061	0.061	-	0.061	0.061	0.00	-
Nitrate	mg N/L	0.1	0.1	0.1	1.01	1.04	2.93	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.18	0.27	**40.00**	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.0015	0.001	**40.00**	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.00439	0.0005	0.0563	0.05	11.85	**159.10**
Antimony	mg/L	0.00002	0.00002	0.00002	0.000929	0.000971	4.42	0.00
Arsenic	mg/L	0.00002	0.000044	0.00002	0.0026	0.00279	7.05	**75.00**
Barium	mg/L	0.00002	0.000166	0.00002	0.0138	0.0132	4.44	**156.99**
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000102	0.0000132	**25.64**	0.00
Calcium (total)	mg/L	0.01	0.644	-	28.9	28.5	1.39	-
Chromium	mg/L	0.0001	0.0001	0.0001	0.00098	0.00091	7.41	0.00
Copper	mg/L	0.00005	0.00016	0.00005	0.00136	0.00149	9.12	**104.76**
Iron	mg/L	0.001	0.105	0.001	0.13	0.0885	37.99	*196.23*
Lead	mg/L	0.000005	0.0000377	0.000005	0.000258	0.000378	37.74	**153.16**
Lithium	mg/L	0.0005	0.0005	0.0005	0.00191	0.00184	3.73	0.00
Magnesium (total)	mg/L	0.01	0.058	-	6.18	6.28	1.61	-
Manganese	mg/L	0.00005	0.00492	0.00005	0.0168	0.0171	1.77	*195.98*
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.019	0.02	5.13	0.00
Nickel	mg/L	0.00002	0.000046	0.00002	0.00511	0.00504	1.38	**78.79**
Potassium (total)	mg/L	0.01	0.05	-	2.21	2.28	3.12	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.000216	0.000218	0.92	0.00
Sodium (total)	mg/L	0.01	0.117	-	2.09	2.18	4.22	-
Strontium	mg/L	0.00005	0.00181	0.00005	0.19	0.203	6.62	*189.25*
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000133	0.0000137	2.96	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.00073	0.00066	10.07	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.00432	0.00457	5.62	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.00355	0.0001	0.00123	0.00328	90.91	*189.04*
Dissolved Metals								
Aluminum	mg/L	0.0005	0.00977	0.0005	0.0197	0.017	14.71	*180.53*

Parameter	Sample Date		7/10/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Antimony	mg/L	0.00002	0.00002	0.00002	0.000938	0.000934	0.43	0.00
Arsenic	mg/L	0.00002	0.000042	0.00002	0.0025	0.0025	0.00	**70.97**
Barium	mg/L	0.00002	0.000955	0.00002	0.0127	0.013	2.33	*191.79*
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.0000167	0.000005	0.0000113	0.0000101	11.21	**107.83**
Chromium	mg/L	0.0001	0.0001	0.0001	0.00019	0.00014	**30.30**	0.00
Copper	mg/L	0.00005	0.000236	0.00005	0.00142	0.00142	0.00	**130.07**
Iron	mg/L	0.001	0.0248	0.001	0.0232	0.0174	28.57	*184.50*
Lead	mg/L	0.000005	0.000163	0.000005	0.000143	0.000175	20.13	*188.10*
Lithium	mg/L	0.0005	0.0005	0.0005	0.00158	0.00147	7.21	0.00
Manganese	mg/L	0.00005	0.00156	0.00005	0.0134	0.014	4.38	*187.58*
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.000056	0.00005	0.0184	0.0183	0.54	11.32
Nickel	mg/L	0.00002	0.000196	0.00002	0.0017	0.00168	1.18	**162.96**
Selenium	mg/L	0.00004	0.00004	0.00004	0.00019	0.000209	9.52	0.00
Strontium	mg/L	0.00005	0.00129	0.00005	0.191	0.183	4.28	*185.07*
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000117	0.0000107	8.93	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.00028	0.00096	**109.68**	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.0000021	0.000002	0.00436	0.00427	2.09	4.88
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.00625	0.0001	0.00387	0.00411	6.02	*193.70*
% Exceedance*							7%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-18 Meadowbank 2023 West Extension Pool WEP 1 QAQC (ST-30)

Parameter	Sample Date		6/5/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	1.69	-	30.9	30.9	0	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	26	26	0	0
TDS	mg/L	10	10	10	20	55	**93.33**	0
TSS	mg/L	1	1	1	1	1	0	0
Major Ions								
Chloride	mg/L	1	1	1	1	1	0	0
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00527	0.00526	0.19	0
Cyanide (free)	mg/L	0.002	0.002	0.002	0.0049	0.0044	10.75	0
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	0.00079	0.00094	17.34	0
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0	0
Sulfate	mg/L	0.5	0.5	0.5	12	12	0	0
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.052	0.05	3.92	0
Nitrate	mg N/L	0.1	0.1	0.1	0.14	0.12	15.38	0
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0	0
Total Metals								
Aluminum	mg/L	0.003	0.0869	0.003	0.0676	0.0389	53.9	*186.65*
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0121	0.0129	6.4	0
Barium	mg/L	0.001	0.001	0.001	0.0051	0.0051	0	0
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0	0
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0	0
Copper	mg/L	0.0005	0.0005	0.0005	0.00389	0.00381	2.08	0
Iron	mg/L	0.01	0.053	0.01	0.222	0.159	33.07	**136.51**
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0	0
Manganese	mg/L	0.001	0.0017	0.001	0.0389	0.039	0.26	**51.85**
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0	0
Molybdenum	mg/L	0.001	0.001	0.001	0.0021	0.0022	4.65	0
Nickel	mg/L	0.001	0.001	0.001	0.0019	0.0018	5.41	0
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0	0
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0	0
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0	0
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0	0
% Exceedance*							7%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-19 Meadowbank 2023 West Extension Pool WEP 2 QAQC (ST-31)

Parameter	Sample Date		7/23/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	116	114	1.74	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	98	97	1.03	0.00
TDS	mg/L	10	10	10	150	155	3.28	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	1	1	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00089	0.00108	19.29	0.00
Cyanide (free)	mg/L	0.002	0.0021	0.002	0.0042	0.0045	6.90	4.88
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.18	0.18	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	36	36	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.00056	0.0005	0.0199	0.0174	13.40	11.32
Arsenic	mg/L	0.00002	0.000021	0.000036	0.00279	0.00277	0.72	**52.63**
Barium	mg/L	0.00002	0.00002	0.00005	0.0129	0.0115	11.48	**85.71**
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.00041	0.00033	**21.62**	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00119	0.00122	2.49	0.00
Iron	mg/L	0.001	0.001	0.001	0.153	0.145	5.37	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.0000316	0.0000228	**32.35**	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.0209	0.0198	5.41	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.000062	0.00005	0.00321	0.0032	0.31	**21.43**
Nickel	mg/L	0.00002	0.000198	0.00002	0.00267	0.0025	6.58	**163.30**
Selenium	mg/L	0.00004	0.00004	0.00004	0.000072	0.000079	9.27	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.000002	0.00	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00067	0.00033	**68.00**	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-20 Meadowbank 2023 Saddle Dam 3 QAQC (ST-32)

Parameter	Sample Date		6/5/2023						7/3/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters														
Hardness, as CaCO3	mg/L	0.5	0.5	-	72.5	75.3	3.79	-	0.5	-	176	168	4.65	-
Total alkalinity, as CaCO3	mg/L	1	1	1	38	37	2.67	0.00	1	1	68	69	1.46	0.00
TDS	mg/L	10	10	10	85	110	*25.64*	0.00	20	10	300	295	1.68	66.67
TSS	mg/L	1	1	1	13	18	32.26	0.00	1	1	2	2	0.00	0.00
Major Ions														
Chloride	mg/L	1	1	1	1.5	2.2	**37.84**	0.00	1	1	11	11	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00663	0.00668	0.75	0.00	0.0005	0.0005	0.00104	0.00102	1.94	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.13	0.13	0.00	0.00	0.1	0.1	0.29	0.29	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	48	48	0.00	0.00	0.5	0.5	110	110	0.00	0.00
Nutrients														
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.057	0.056	1.77	0.00	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.99	0.99	0.00	0.00	0.1	0.1	4.64	4.5	3.06	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.017	0.016	6.06	0.00	0.01	0.01	0.014	0.013	7.41	0.00
Total Metals														
Aluminum	mg/L	0.003	0.003	0.003	0.665	0.741	10.81	0.00	0.003	0.003	0.0454	0.0432	4.97	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0184	0.0242	27.23	0.00	0.0001	0.0001	0.034	0.0331	2.68	0.00
Barium	mg/L	0.001	0.001	0.001	0.0179	0.0182	1.66	0.00	0.001	0.001	0.0302	0.0293	3.03	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00002	0.000023	13.95	0.00	0.00001	0.00001	0.000011	0.00001	9.52	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0104	0.0129	21.46	0.00	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00685	0.00725	5.67	0.00	0.0005	0.0005	0.00293	0.00282	3.83	0.00
Iron	mg/L	0.01	0.01	0.01	1.38	1.55	11.60	0.00	0.01	0.01	0.096	0.093	3.17	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00356	0.00379	6.26	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0509	0.0544	6.65	0.00	0.001	0.001	0.0196	0.0188	4.17	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0042	0.0043	2.35	0.00	0.001	0.001	0.0097	0.0094	3.14	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0144	0.0172	17.72	0.00	0.001	0.001	0.0321	0.0307	4.46	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00015	0.00016	6.45	0.00	0.0001	0.0001	0.00047	0.00043	8.89	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.000024	0.000023	4.26	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000022	0.000021	4.65	0.00	0.00001	0.00001	0.000025	0.000022	12.77	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							10%	0%					0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
[1] Different MDL used for this parameter.

Table 1-21 Meadowbank 2023 Phaser Pit Lake QAQC (ST-41 Lake)

Parameter	Sample Date		7/10/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	71.2	80.7	12.51	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	39	39	0.00	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	1	-	39	39	0.00	-
TDS	mg/L	10	10	10	10	105	95	10.00	0.00
TSS	mg/L	1	1	1	1	2	1	**66.67**	0.00
Total organic carbon	mg/L	0.4	0.4	0.53	0.4	3	2.9	3.39	**27.96**
Dissolved organic carbon	mg/L	0.4	0.4	0.4	0.4	3	2.9	3.39	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	1.4	1.6	13.33	0.00
Cyanide	mg/L	0.0005	0.0005	0.00051	0.0005	0.00052	0.0005	3.92	1.98
Cyanide (free)	mg/L	0.002	0.0033	0.0047	0.002	0.0064	0.0059	8.13	**80.60**
Silica	mg/L	0.05	0.05	0.05	0.05	2	2.1	4.88	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	36	36	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.59	0.6	1.68	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.12	0.1	0.21	0.2	4.88	18.18
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.0011	0.001	9.52	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.0005	0.00138	0.00134	0.0005	0.0172	0.0303	55.16	**91.30**
Antimony	mg/L	0.00002	0.00002	0.00002	0.00002	0.0005	0.000518	3.54	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00002	0.00132	0.00138	4.44	0.00
Barium	mg/L	0.00002	0.00002	0.000032	0.00002	0.0127	0.0135	6.11	**46.15**
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000725	0.0000084	*158.47*	0.00
Calcium (total)	mg/L	0.01	0.05	0.05	-	21.6	25	14.59	-
Chromium	mg/L	0.0001	0.00011	0.00016	0.0001	0.00017	0.00034	**66.67**	**46.15**
Copper	mg/L	0.00005	0.000066	0.000118	0.00005	0.00297	0.00608	68.73	**80.95**
Iron	mg/L	0.001	0.0012	0.0031	0.001	0.0206	0.0597	97.38	**102.44**
Lead	mg/L	0.000005	0.0000081	0.0000222	0.000005	0.000128	0.000166	25.85	**126.47**
Lithium	mg/L	0.0005	0.0005	0.0005	0.0005	0.00123	0.00126	2.41	0.00
Magnesium (total)	mg/L	0.01	0.05	0.05	-	4.22	4.47	5.75	-
Manganese	mg/L	0.00005	0.00005	0.000084	0.00005	0.00421	0.00289	37.18	**50.75**
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.000093	0.00005	0.00709	0.00739	4.14	**60.14**
Nickel	mg/L	0.00002	0.000146	0.000418	0.00002	0.00287	0.00428	39.44	*181.74*
Potassium (total)	mg/L	0.01	0.05	0.05	-	1.56	1.63	4.39	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.000128	0.000142	10.37	0.00
Sodium (total)	mg/L	0.01	0.158	0.05	-	1.22	1.33	8.63	-
Strontium	mg/L	0.00005	0.000054	0.00005	0.00005	0.117	0.121	3.36	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.0000075	0.000007	6.90	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.00044	0.0002	**75.00**	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.000002	0.00332	0.00345	3.84	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.00136	0.00075	0.0001	0.00416	0.00169	84.44	**152.94**
Dissolved Metals									
Aluminum	mg/L	0.0005	0.038	0.0005	0.0005	0.0365	0.0189	63.54	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.00002	0.000518	0.000518	0.00	0.00

Parameter	Sample Date		7/10/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Arsenic	mg/L	0.00002	0.000027	0.00002	0.00002	0.00134	0.00134	0.00	0.00
Barium	mg/L	0.00002	0.000433	0.00002	0.00002	0.0136	0.013	4.51	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000191	0.0000085	**76.81**	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0002	0.00017	16.22	0.00
Copper	mg/L	0.00005	0.000176	0.00005	0.00005	0.0033	0.00313	5.29	0.00
Iron	mg/L	0.001	0.0094	0.001	0.001	0.0604	0.0274	75.17	0.00
Lead	mg/L	0.000005	0.0000601	0.000005	0.000005	0.00019	0.000184	3.21	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.0005	0.00116	0.0011	5.31	0.00
Manganese	mg/L	0.00005	0.000743	0.00005	0.00005	0.00365	0.00431	16.58	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.000072	0.00005	0.00005	0.00699	0.00702	0.43	0.00
Nickel	mg/L	0.00002	0.000192	0.00002	0.00002	0.0028	0.00271	3.27	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.000121	0.000133	9.45	0.00
Strontium	mg/L	0.00005	0.00094	0.00005	0.00005	0.119	0.116	2.55	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.0000085	0.0000079	7.32	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.00109	0.0005	**74.21**	0.00
Uranium	mg/L	0.000002	0.0000029	0.000002	0.000002	0.00344	0.00338	1.76	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.00202	0.0001	0.0001	0.00411	0.00566	31.73	0.00
% Exceedance*								14%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
[1] Different MDL used for this parameter.

Table 1-22 Meadowbank 2023 BB Phaser Pit Lake QAQC (ST-42 Lake)

Parameter	Sample Date		7/10/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	79.3	81.9	3.23	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	44	44	0.00	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	-	44	44	0.00	-
TDS	mg/L	10	10	10	115	110	4.44	0.00
TSS	mg/L	1	1	1	3	2	**40.00**	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	3.4	3.2	6.06	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	3.2	3.2	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	1.2	1.4	15.38	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Cyanide (free)	mg/L	0.002	0.0024	0.002	0.0028	0.002	**33.33**	18.18
Silica	mg/L	0.05	0.05	0.05	2.9	2.9	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	39	39	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.77	0.76	1.31	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.31	0.12	**88.37**	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.0023	0.001	**78.79**	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.119	0.0348	109.49	0.00
Antimony	mg/L	0.00002	0.00002	0.00002	0.000675	0.00067	0.74	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00169	0.00153	9.94	0.00
Barium	mg/L	0.00002	0.00002	0.00002	0.0158	0.0154	2.56	0.00
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000016	**46.15**	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000181	0.0000094	**63.27**	0.00
Calcium (total)	mg/L	0.01	0.05	-	24.1	25.3	4.86	-
Chromium	mg/L	0.0001	0.0001	0.0001	0.00041	0.00021	**64.52**	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00391	0.00374	4.44	0.00
Iron	mg/L	0.001	0.001	0.001	0.223	0.0477	129.52	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000335	0.0000999	108.12	0.00
Lithium	mg/L	0.0005	0.0005	0.0005	0.00146	0.0013	11.59	0.00
Magnesium (total)	mg/L	0.01	0.05	-	4.66	4.56	2.17	-
Manganese	mg/L	0.00005	0.00005	0.00005	0.00716	0.00484	38.67	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00533	0.00528	0.94	0.00
Nickel	mg/L	0.00002	0.000102	0.00002	0.00344	0.00351	2.01	**134.43**
Potassium (total)	mg/L	0.01	0.05	-	1.72	1.64	4.76	-
Selenium	mg/L	0.00004	0.00004	0.00004	0.000138	0.000122	12.31	0.00
Sodium (total)	mg/L	0.01	0.05	-	1.44	1.38	4.26	-
Strontium	mg/L	0.00005	0.00005	0.00005	0.127	0.125	1.59	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000083	0.0000076	8.81	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.00174	0.0007	**85.25**	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.00427	0.00423	0.94	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.00021	0.0001	0.00161	0.0009	*56.57*	**70.97**
Dissolved Metals								
Aluminum	mg/L	0.0005	0.00321	0.0005	0.0232	0.0183	23.61	**146.09**
Antimony	mg/L	0.00002	0.00002	0.00002	0.000665	0.000655	1.52	0.00

Parameter	Sample Date		7/10/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00204	0.00202	0.99	0.00
Barium	mg/L	0.00002	0.000509	0.00002	0.0153	0.0154	0.65	*184.88*
Beryllium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Boron	mg/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.0000156	0.0000085	**58.92**	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.00021	0.00016	**27.03**	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00359	0.00359	0.00	0.00
Iron	mg/L	0.001	0.0143	0.001	0.0303	0.0314	3.57	*173.86*
Lead	mg/L	0.000005	0.0000107	0.000005	0.000352	0.0000851	122.12	**72.61**
Lithium	mg/L	0.0005	0.0005	0.0005	0.00126	0.00119	5.71	0.00
Manganese	mg/L	0.00005	0.00138	0.00005	0.00398	0.00384	3.58	*186.01*
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00514	0.00506	1.57	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.00289	0.00288	0.35	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.000136	0.000143	5.02	0.00
Strontium	mg/L	0.00005	0.00108	0.00005	0.12	0.124	3.28	*182.30*
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000075	0.0000078	3.92	0.00
Tin	mg/L	0.0002	0.0002	0.0002	0.00031	0.0002	**43.14**	0.00
Titanium	mg/L	0.0005	0.0005	0.0005	0.0005	0.00051	1.98	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.00419	0.00418	0.24	0.00
Vanadium	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Zinc	mg/L	0.0001	0.00013	0.0001	0.0288	0.00458	145.12	**26.09**
% Exceedance*							8%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
[1] Different MDL used for this parameter.

Table 1-23 Meadowbank 2023 Phaser Attenuation Pond QAQC (ST-43)

Parameter	Sample Date		7/10/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	5.11	0.5	-	58.4	59.2	1.36	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	29	28	3.51	0.00
TDS	mg/L	10	10	10	10	95	90	5.41	0.00
TSS	mg/L	1	1	1	1	1	2	**66.67**	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	2.6	2.7	3.77	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	32	33	3.08	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.0005	0.00328	0.00197	0.0005	0.0317	0.0343	7.88	**119.03**
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00002	0.000667	0.000682	2.22	0.00
Barium	mg/L	0.00002	0.000417	0.000032	0.00002	0.0102	0.00986	3.39	**46.15**
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000123	0.0000176	**35.45**	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00025	0.00019	**27.27**	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.00005	0.00287	0.00294	2.41	0.00
Iron	mg/L	0.001	0.001	0.0021	0.001	0.158	0.164	3.73	**70.97**
Lead	mg/L	0.000005	0.000005	0.0000119	0.000005	0.000132	0.000152	14.08	**81.66**
Manganese	mg/L	0.00005	0.000148	0.000061	0.00005	0.00761	0.00791	3.87	19.82
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.000075	0.00005	0.00171	0.00172	0.58	**40.00**
Nickel	mg/L	0.00002	0.00002	0.000296	0.00002	0.00275	0.00291	5.65	*174.68*
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.000057	0.000069	19.05	0.00
Silver	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000125	0.0000144	14.13	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.0000061	0.0000069	12.31	0.00
Zinc	mg/L	0.0001	0.00032	0.00019	0.0001	0.00192	0.00413	73.06	**62.07**
% Exceedance*								4%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-24 Meadowbank 2023 East Dike Seepage QAQC (ST-S-1)

Parameter	Sample Date		5/14/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	32.2	32.6	1.23	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	29	29	0.00	0.00
TDS	mg/L	10	10	10	40	65	**47.62**	0.00
TSS	mg/L	1	1	1	18	15	18.18	0.00
Major Ions								
Chloride	mg/L	1	1	1	1	1	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0006	18.18	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	8.1	7.5	7.69	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.12	0.14	15.38	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.016	0.01	**46.15**	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.265	0.248	6.63	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00934	0.00727	24.92	0.00
Barium	mg/L	0.001	0.001	0.001	0.0084	0.0084	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0034	0.0029	15.87	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00194	0.00195	0.51	0.00
Iron	mg/L	0.01	0.01	0.01	0.491	0.452	8.27	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00045	0.00044	2.25	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0145	0.0139	4.23	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.004	0.0035	13.33	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							4%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-25 Meadowbank 2023 Saddle Dam 1 QAQC (ST-S-2)

Parameter	Sample Date		6/25/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	395	364	8.17	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	48	47	2.11	0.00
TDS	mg/L	10	10	10	10	695	700	0.72	0.00
TSS	mg/L	1	1	1	1	14	47	108.20	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	7.1	7.7	8.11	0.00
Cyanide	mg/L	0.0005	0.00067	0.0005	0.0005	0.00947	0.0113	17.62	0.00
Cyanide (free)	mg/L	0.002	0.002	0.002	0.002	0.0064	0.0066	3.08	0.00
Cyanide (WAD)	mg/L	0.0005	0.00069	0.0005	0.0005	0.0059	0.0062	4.96	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.2	0.2	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	410	400	2.47	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	3.65	3.7	1.36	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.304	0.743	83.86	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0181	0.0235	25.96	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0259	0.026	0.39	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000071	0.000073	2.78	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.0051	0.0128	*86.03*	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00417	0.00639	*42.05*	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.723	1.75	83.06	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00218	0.00459	71.20	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.213	0.21	1.42	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0116	0.0108	7.14	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0442	0.0456	3.12	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00136	0.00126	7.63	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.000014	**33.33**	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								17%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-26 Meadowbank 2023 Central Dike Seepage QAQC (ST-S-5)

Parameter	Sample Date		1/8/2023						5/21/2023
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	37.2	-	850	848	0.24	-	0.5
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	180	180	0.00	0.00	1
TDS	mg/L	10	10	10	2100	2080	0.96	0.00	10
TSS	mg/L	1	1	1	9	8	11.76	0.00	1
Major Ions									
Chloride	mg/L	1	1	1	150	160	6.45	0.00	1
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0567	0.0541	4.69	0.00	0.00057
Cyanide (free)	mg/L	0.002	0.002	0.002	0.019	0.019	0.00	0.00	0.002
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	0.019	0.019	0.00	0.00	0.00059
Fluoride	mg/L	0.1	0.1	0.1	0.53	0.53	0.00	0.00	0.1
Sulfate	mg/L	0.5	0.5	0.5	1400	1400	0.00	0.00	0.5
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	23	23	0.00	0.00	0.05
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01
Total Metals									
Aluminum	mg/L	0.003	0.0883	0.003	0.006	0.006	0.00	*186.86*	0.003
Arsenic	mg/L	0.0001	0.00148	0.0001	0.153	0.138	10.31	*174.68*	0.0001
Barium	mg/L	0.001	0.0081	0.001	0.0225	0.0221	1.79	**156.04**	0.001
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001
Chromium	mg/L	0.001	0.001	0.001	0.002	0.0028	**33.33**	0.00	0.001
Copper	mg/L	0.0005	0.00128	0.0005	0.001	0.001	0.00	**87.64**	0.0005
Iron	mg/L	0.01	0.121	0.01	2.97	2.91	2.04	*169.47*	0.01
Lead	mg/L	0.0002	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.0002
Manganese	mg/L	0.001	0.0029	0.001	2.01	1.94	3.54	**97.44**	0.001
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001
Molybdenum	mg/L	0.001	0.001	0.001	0.0982	0.0995	1.32	0.00	0.001
Nickel	mg/L	0.001	0.001	0.001	0.0028	0.0139	*132.93*	0.00	0.001
Selenium	mg/L	0.0001	0.0001	0.0001	0.00024	0.00026	8.00	0.00	0.0001
Silver	mg/L	0.00002	0.00002	0.00002	0.00004	0.00004	0.00	0.00	0.00002
Thallium	mg/L	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001
Zinc	mg/L	0.005	0.005	0.005	0.01	0.01	0.00	0.00	0.005
Dissolved Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.006	0.006	0.00	0.00	0.0037
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0892	0.0916	2.65	0.00	0.0001
Barium	mg/L	0.001	0.001	0.001	0.0207	0.0211	1.91	0.00	0.001
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001
Chromium	mg/L	0.001	0.001	0.001	0.002	0.002	0.00	0.00	0.001
Copper	mg/L	0.0002	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.0002
Iron	mg/L	0.005	0.005	0.005	2.93	3	2.36	0.00	0.005

Parameter	Sample Date		1/8/2023						5/21/2023
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank
Lead	mg/L	0.0002	0.0002	0.0002	0.0004	0.0004	0.00	0.00	0.0002
Manganese	mg/L	0.001	0.001	0.001	1.85	1.9	2.67	0.00	0.001
Mercury	mg/L	0.00001	0.00001	0.00001	-	-	-	0.00	0.00001
Molybdenum	mg/L	0.001	0.001	0.001	0.0884	0.0894	1.12	0.00	0.001
Nickel	mg/L	0.001	0.001	0.001	0.002	0.002	0.00	0.00	0.001
Selenium	mg/L	0.0001	0.0001	0.0001	0.00029	0.00025	14.81	0.00	0.0001
Silver	mg/L	0.00002	0.00002	0.00002	0.00004	0.00004	0.00	0.00	0.00002
Thallium	mg/L	0.00001	0.00001	0.00001	0.00002	0.00002	0.00	0.00	0.00001
Zinc	mg/L	0.005	0.005	0.005	0.01	0.01	0.00	0.00	0.005
% Exceedance*							0%	0%	

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-27 Meadowbank 2023 Sewage Treatment Plan QAQC (STP-IN, STP-LJ-MIX, STP-SEP)

STP-IN Parameters	Sample Date		1/3/2023						3/6/2023
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank
Conventional Parameters									
TSS	mg/L	1	1	1	81	97	17.98	0.00	1
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	73	75	2.70	0.00	0.05
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.53	0.54	1.87	-	-
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1
Nitrite	mg N/L	0.01	0.01	0.01	0.018	0.01	**57.14**	0.00	0.01
Total Kjeldahl nitrogen	mg N/L	0.1	0.38	0.1	76	77	1.31	**116.67**	0.1
Biochemical Oxygen Demand	mg/L	2	2	2	130	110	16.67	0.00	2
Chemical oxygen demand	mg/L	4	4	4	330	320	3.08	0.00	4
Total phosphorus	mg P/L	0.001	0.001	0.001	8.8	9	2.25	0.00	0.001
% Exceedance*							0%	0%	

STP-LJ-MIX Parameter	Sample Date		1/3/2023						3/6/2023
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank
Conventional Parameters									
TSS	mg/L	1	1	1	7	7	0.00	0.00	1
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	22	22	0.00	0.00	0.05
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.085	0.085	0.00	-	-
Nitrate	mg N/L	0.1	0.1	0.1	37.4	36.9	1.35	0.00	0.1
Nitrite	mg N/L	0.01	0.01	0.01	0.031	0.027	13.79	0.00	0.01
Total Kjeldahl nitrogen	mg N/L	0.1	0.34	0.1	20	20	0.00	**109.09**	0.1
Biochemical Oxygen Demand	mg/L	2	2	2	3	2	**40.00**	0.00	2
Chemical oxygen demand	mg/L	4	4	4	30	28	6.90	0.00	4
% Exceedance*							0%	0%	

STP-SEP Parameter	Sample Date		1/3/2023						3/6/2023
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank
Conventional Parameters									
TSS	mg/L	1	1	1	13	13	0.00	0.00	1
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	26	27	3.77	0.00	0.05
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.1	0.11	9.52	-	-
Nitrate	mg N/L	0.1	0.1	0.1	7.89	7.78	1.40	0.00	0.1
Nitrite	mg N/L	0.01	0.01	0.01	1.23	1.22	0.82	0.00	0.01
Total Kjeldahl nitrogen	mg N/L	0.1	0.33	0.1	28	29	3.51	**106.98**	0.1
Biochemical Oxygen Demand	mg/L	2	2	2	16	15	6.45	0.00	2
Chemical oxygen demand	mg/L	4	4	4	61	62	1.63	0.00	4
% Exceedance*							0%	0%	

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.
[1-2] Different MDL used for this parameter.

Table 1-28 Meadowbank 2023 Assay Road Seepage QAQC (TPL-Assay)

Parameter	Sample Date		6/18/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	38.3	37	3.45	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	24	25	4.08	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	-	24	25	4.08	-
TDS	mg/L	10	10	10	55	55	0.00	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	2.4	2.4	0.00	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	2	2	0.00	0.00
Colour	TCU	2	2	2	4	3	**28.57**	0.00
Major Ions								
Bromide	mg/L	1	1	1	1	1	0.00	0.00
Chloride	mg/L	1	1	1	4.2	5.5	**26.80**	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Cyanide (free)	mg/L	0.002	0.002	0.002	0.0022	0.002	9.52	0.00
Cyanide (WAD)	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Silica	mg/L	0.05	0.5	0.05	1.1	1.1	0.00	**163.64**
Sulfate	mg/L	0.5	0.5	0.77	16	16	0.00	**42.52**
Thiocyanate	mg/L	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Thiosulphates	mg/L	0.2	0.2	0.2	0.2	0.2	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.25	0.25	0.00	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.0013	0.001	**26.09**	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0246	0.0199	**21.12**	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00096	0.00091	5.35	0.00
Barium	mg/L	0.001	0.001	0.001	0.0066	0.0061	7.87	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	-	10.8	10.5	2.82	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00083	0.00074	11.46	0.00
Iron	mg/L	0.01	0.01	0.01	0.09	0.076	16.87	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	-	2.73	2.63	3.73	-
Manganese	mg/L	0.001	0.001	0.001	0.0127	0.0121	4.84	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0015	0.0012	**22.22**	0.00
Potassium (total)	mg/L	0.05	0.05	-	1.37	1.31	4.48	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	-	1.69	1.66	1.79	-
Strontium	mg/L	0.001	0.001	0.001	0.0573	0.0547	4.64	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.00018	0.00017	5.71	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0032	0.003	6.45	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00084	0.00083	1.20	0.00
Barium	mg/L	0.001	0.001	0.001	0.0071	0.0071	0.00	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.00116	0.00115	0.87	0.00
Iron	mg/L	0.005	0.005	0.005	0.0217	0.0218	0.46	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00

Parameter	Sample Date		6/18/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0125	0.0126	0.80	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0013	0.0013	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.0619	0.0624	0.80	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0002	0.0002	0.00	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-29 Meadowbank 2023 Assay Road Seepage Trench QAQC (MILL-TRENCH)

Parameter	Sample Date		6/18/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Major Ions								
Cyanide	mg/L	0.0005	0.00052	0.0005	0.0363	0.0397	8.95	3.92
Cyanide (free)	mg/L	0.002	0.002	0.002	0.032	0.032	0.00	0.00
Total Metals								
Copper	mg/L	0.0005	0.0005	0.0005	0.00595	0.006	0.84	0.00
Iron	mg/L	0.01	0.01	0.01	0.128	0.152	17.14	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

1.2 WHALE TAIL SITE

In 2023, 244 samples were collected (excluding Groundwater and CREMP monitoring programs), 46 duplicates, 46 field blanks and 20 trip blanks, which represents 19% of duplicate, 19% of field blanks and 8% of trip blanks which is higher than the QA/QC duplicate program objective of 10% but slightly under target for the QAQC objective of 10% for trip blanks. Most sampling stations are sampled more frequently than water license requirements, or than originally planned. These additional samples contributed to achieving less than 10% objective of trip blank samples collected in 2023. Agnico Eagle will review the internal process and adjust the monitoring requirements on site to ensure the trip blank objective of 10% or more will be collected in 2024.

The following presents the percentage of duplicate and field samples collected from each of the monitoring programs:

- MDMER and EEM monitoring programs: 14 duplicate samples, 14 field blanks and 8 trip blanks were collected from a total of 47 samples, representing 30% of duplicate and field blanks and 17% of trip blanks;

- Surface water monitoring programs: 31 duplicate samples, 31 field blanks and 11 trip blanks were collected from a total of 184 samples, representing 17% of duplicates, 17% of field blanks, 6% of trip blanks;

- STP monitoring program: 1 duplicate samples, 1 field blanks, and 1 trip blank were collected from a total of 13 samples, representing 8% of duplicate and field blanks and 8% of trip blank. As per the QAQC Plan, one (1) field duplicate and one (1) field blank are to be collected per monitoring station. The objective of the STP monitoring program is met;

- Groundwater Monitoring Program; 2 duplicates, 1 field blank and 1 trip blank were collected (refer to the 2023 Whale Tail Groundwater report – Appendix 36 of the 2023 Annual Report), which aligns with the frequency outlined in the current QAQC Management Plan (Appendix 44 of the 2023 Annual Report); and

- Core Receiving Environment Monitoring Program (CREMP); A combined total of 16 duplicates were collected between the Meadowbank Lakes, Baker Lake, and the Whale Tail Lakes. Travel blanks (TB), de-ionized (DI) blanks and Equipment Blanks were submitted for all sampling events (refer to Appendix 26 of the 2023 Annual Report for the 2023 CREMP Report), which aligns with the frequency outlined in the current QAQC Management Plan (Appendix 44 of the 2023 Annual Report).

Analytical precision is a measurement of the variability associated with duplicate analyses of the same sample in the laboratory. Duplicate results were assessed using the relative percent difference (RPD) between measurements. The equation used to calculate a RPD is:

RPD = (A-B)/ ((A+B)/2)*100; where: A = field sample; B = duplicate sample.

Large variations in RPD values are often observed between duplicate samples when the concentrations of analytes are low and approaching the detection limit. Consequently, a RPD of 20% for concentrations of field and duplicates samples that both exceed 10x the method detection limit (MDL) is considered notable. The analytical precision of one QAQC sampling event is characterized as:

- High, when less than 10% of the parameters have variations that are notable;
- Medium, when 10 to 30% of the parameters have variations that are notable;
- Low, when more than 30% of the parameters have variations that are notable.

Results of the QA/QC data are presented in Tables 1-30 to 1-60 for the MDMER and EEM, Surface Water, STP, respectively. The following is a brief summary of the QA/QC results, per sampling program:

- MDMER and EEM (Tables 1-30 to 1-38): All the duplicate samples collected were considered as having high analytical precision.
- Surface Water (Tables 1-39 – 1-49 and 1-51 – 1-60): All QAQC sampling events conducted within the surface water quality program are rated as having high analytical precision.
- STP (Table 1-50): Analytical precision is rated medium (10%) for duplicate sample collected.

RPD values were also calculated for field blanks (FB) and lab blanks (LB) in 2023 as per the QA/QC Plan. All field blank samples are considered to have high analytical precision.

The QA/QC plan was followed, and samples were collected by qualified technicians. It is common to have some RPD exceedances as a result of the discrete differences in the original and field duplicates. Given the variability of these exceedances (occurring with different parameters, on different dates for different sampling programs) and the high number of successful samples, it is evident that field QA/QC standards during water sampling were maintained during sampling in 2023. Agnico Eagle technicians will continue to follow standard QA/QC procedures for surface water sampling that requires the use of sample bottles that are provided by an accredited laboratory, proper handling and storage of bottles to prevent cross-contamination between areas and, if appropriate, thoroughly rinsing the sample containers with sample water prior to sample collection.

Each equipment used for field measurement are calibrated prior each usage. Calibration datasheets are kept for future reference, if needed.

Table 1-30 Whale Tail 2023 MDMER QAQC (ST-MDMER-7)

Parameter	Sample Date		6/12/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
TSS	mg/L	1	1	1	1	1	1	0.00	0.00
Major Ions									
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0015	0.00149	0.67	0.00
Nutrients and Chlorophyll a									
Un-Ionized Ammonia, calculated	mg/L	-	-	-	-	0.0006	0.0006	0.00	-
Total Metals									
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0017	0.00169	0.59	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00068	0.00074	8.45	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0078	0.0072	8.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0056	0.005	11.32	0.00
Radionuclides									
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-31 Whale Tail 2023 MDMER QAQC (ST-MDMER-8)

Parameter	Sample Date		6/12/2023							7/16/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
TSS	mg/L	1	1	1	1	1	1	0.00	0.00	1	1	1	1	1	0.00	0.00
Major Ions																
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0014	0.00133	5.13	0.00	0.0005	0.0005	0.0005	0.00301	0.00289	4.07	0.00
Nutrients and Chlorophyll a																
Un-Ionized Ammonia, calculated	mg/L	-	-	-	-	0.0004	0.0004	0.00	-	-	-	-	0.0007	0.0007	0.00	-
Total Metals																
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00168	0.00172	2.35	0.00	0.0001	0.0001	0.0001	0.00496	0.00519	4.53	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00064	0.00073	13.14	0.00	0.0005	0.0005	0.0005	0.00106	0.00131	**21.10**	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0073	0.0076	4.03	0.00	0.001	0.001	0.001	0.0114	0.0126	10.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0073	0.0097	**28.24**	0.00	0.005	0.005	0.005	0.0075	0.009	18.18	0.00
Radionuclides																
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.007	0.01	**35.29**	0.00
% Exceedance*								0%	0%						0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-32 Whale Tail 2023 MDMER QAQC (ST-MDMER-11)

Parameter	Sample Date		1/9/2023						3/20/2023						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters															
TSS	mg/L	1	1	1	1	2	**66.67**	0.00	1	1	1	1	2	**66.67**	0.00
Major Ions															
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0278	0.0277	0.36	0.00	0.0005	0.0005	0.0005	0.0337	0.0335	0.60	0.00
Nutrients and Chlorophyll a															
Un-Ionized Ammonia, calculated	mg/L	-	-	-	0.0011	0.0011	0.00	-	-	-	-	0.0057	0.0056	1.77	-
Total Metals															
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00299	0.00309	3.29	0.00	0.0001	0.0001	0.0001	0.0012	0.00135	11.76	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00142	0.00144	1.40	0.00	0.0005	0.0005	0.0005	0.0008	0.0009	11.76	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.192	*199.58*	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0184	0.0188	2.15	0.00	0.001	0.001	0.001	0.0071	0.0075	5.48	0.00
Zinc	mg/L	0.005	0.005	0.005	0.0066	0.0065	1.53	0.00	0.005	0.005	0.005	0.0076	0.0079	3.87	0.00
Radionuclides															
Radium-226	Bq/l	0.005	0.005	0.005	0.019	0.024	**23.26**	0.00	0.005	0.005	0.005	0.021	0.02	4.88	0.00
% Exceedance*							0%	0%						0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-33 Whale Tail 2023 EEM QAQC Effluent Characterisation (ST-MDMER-EEM-7)

ST-MDMER-7-EEM	Sample Date		6/12/2023						
Parameter	**Unit**	**MDL**	**Trip Blank**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	69.1	78.3	12.48	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	24	24	0.00	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	32	31	3.17	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	31	31	0.00	0.00
Nutrients and Chlorophyll a									
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.97	0.85	13.19	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.0027	**91.89**	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0123	0.0083	**38.83**	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.0127	*170.80*	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.00084	0.001	17.39	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.135	0.157	15.07	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.185	0.218	16.38	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.004	0.0164	*121.57*	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00018	0.00022	20.00	0.00
% Exceedance*								0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-34 Whale Tail 2022 EEM QAQC Effluent Characterisation (ST-MDMER-EEM-8)

ST-MDMER-8-EEM	Sample Date		6/5/2023							7/3/2023						
Parameter	**Unit**	**MDL**	**Trip Blank**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**	**Trip Blank**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters																
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	79.1	78.4	0.89	-	0.5	0.5	-	149	156	4.59	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1.5	1	30	30	0.00	**40.00**	1	1	1	37	36	2.74	0.00
Major Ions																
Chloride	mg/L	1	1	1	1	24	31	25.45	0.00	1	1	1	60	59	1.68	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	38	39	2.60	0.00	0.5	0.78	0.58	54	54	0.00	**29.41**
Nutrients and Chlorophyll a																
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.85	0.84	1.18	0.00	0.1	0.1	0.1	2.97	3.13	5.25	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Total Metals																
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0073	0.0074	1.36	0.00	0.003	0.003	0.003	0.0064	0.0072	11.76	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.000015	0.000014	6.90	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.00113	0.00114	0.88	0.00	0.0002	0.0002	0.0002	0.00078	0.00081	3.77	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.102	0.101	0.99	0.00	0.01	0.01	0.01	0.189	0.192	1.57	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.239	0.237	0.84	0.00	0.001	0.001	0.001	0.142	0.15	5.48	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0047	0.0046	2.15	0.00	0.001	0.001	0.001	0.0082	0.0086	4.76	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0002	0.00023	13.95	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00002	0.000021	4.88	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00024	0.00023	4.26	0.00	0.0001	0.0001	0.0001	0.00103	0.00109	5.66	0.00
% Exceedance*								6%	0%						0%	0%

ST-MDMER-8-EEM	Sample Date		8/7/2023						
Parameter	**Unit**	**MDL**	**Trip Blank**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	177	160	10.09	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	39	38	2.60	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	80	81	1.24	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.58	59	60	1.68	14.81
Nutrients and Chlorophyll a									
Nitrate	mg N/L	0.1	0.1	0.1	0.1	2.62	2.61	0.38	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.0018	0.0021	15.38	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0077	0.0078	1.29	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.0002	0.00072	0.00064	11.76	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.446	0.362	20.79	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0896	0.0838	6.69	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0094	0.0087	7.73	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00023	0.00019	19.05	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000026	0.000024	8.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00131	0.00113	14.75	0.00
% Exceedance*								6%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-35 Whale Tail 2023 EEM QAQC Effluent Characterisation (ST-MDMER-EEM-11)

ST-MDMER-11-EEM	Sample Date		1/9/2023						10/9/2023					
Parameter	**Unit**	**MDL**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters														
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	155	157	1.28	-	0.5	-	212	207	2.39	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	61	61	0.00	0.00	1.3	1	45	43	4.55	**26.09**
Major Ions														
Chloride	mg/L	1	1	1	39	39	0.00	0.00	1	1	76	76	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	66	65	1.53	0.00	0.5	0.5	78	78	0.00	0.00
Nutrients and Chlorophyll a														
Nitrate	mg N/L	0.1	0.1	0.1	3.13	3.11	0.64	0.00	0.1	0.1	5.77	5.64	2.28	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.00	0.00
Total Metals														
Aluminum	mg/L	0.003	0.003	0.003	0.0058	0.0055	5.31	0.00	0.003	0.003	0.0102	0.0087	15.87	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000012	18.18	0.00	0.00001	0.00001	0.00001	0.000014	**33.33**	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.00	0.00
Cobalt	mg/L	0.0002	0.0002	0.0002	0.00165	0.00167	1.20	0.00	0.0002	0.0002	0.00102	0.00102	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	0.215	0.213	0.93	0.00	0.01	0.01	0.287	0.279	2.83	0.00
Manganese	mg/L	0.001	0.001	0.001	0.333	0.336	0.90	0.00	0.001	0.001	0.184	0.181	1.64	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0165	0.0173	4.73	0.00	0.001	0.001	0.0085	0.0082	3.59	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00018	0.00018	0.00	0.00	0.0001	0.0001	0.00028	0.00027	3.64	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000019	0.000017	11.11	0.00	0.00001	0.00001	0.000018	0.000016	11.76	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.00196	0.00199	1.52	0.00	0.0001	0.0001	0.00219	0.00213	2.78	0.00
% Exceedance*							0%	0%					0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-36 Whale Tail 2023 EEM QAQC Exposure Area Mammoth Lake (EEM-7-MAME-2)

EEM-7-MAME-2	Sample Date		9/10/2023					
Parameter	**Unit**	**MDL**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	74.9	75.9	1.33	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	23	23	0.00	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	28	27	3.64	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.00172	0.00193	11.51	0.00
Sulfate	mg/L	0.5	0.5	0.5	32	31	3.17	0.00
Nutrients and Chlorophyll a								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.19	0.19	0.00	0.00
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.0013	0.0013	0.00	-
Nitrate	mg N/L	0.1	0.1	0.1	1.15	1.09	5.36	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.0017	0.001	**51.85**	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.00296	0.00329	10.56	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.00232	0.00253	8.66	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Cobalt	mg/L	0.000005	0.000005	0.000005	0.000198	0.000199	0.50	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.000511	0.000496	2.98	0.00
Iron	mg/L	0.001	0.001	0.001	0.0368	0.0431	15.77	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000006	0.000005	18.18	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.0264	0.0264	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00209	0.00216	3.29	0.00
Nickel	mg/L	0.00002	0.00002	0.00002	0.00404	0.00409	1.23	0.00
Selenium	mg/L	0.00004	0.00004	0.00004	0.000078	0.000089	13.17	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000005	0.000004	**22.22**	0.00
Uranium	mg/L	0.000002	0.000004	0.000002	0.000434	0.000439	1.15	**66.67**
Zinc	mg/L	0.0001	0.0001	0.0001	0.00065	0.00062	4.72	0.00
Radionuclides								
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-37 Whale Tail 2023 EEM QAQC Exposure Area WTSE (WTSE-1)

WTSE-1	Sample Date		1/9/2023					
Parameter	**Unit**	**MDL**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	50.3	50.5	0.40	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	25	23	8.33	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	17	17	0.00	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	19	19	0.00	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.13	0.15	14.29	0.00
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.0004	0.0004	0.00	-
Nitrate	mg N/L	0.1	0.1	0.1	0.53	0.52	1.90	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.0027	0.0026	3.77	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.00586	0.00878	39.89	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.000964	0.000957	0.73	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0002	0.00018	10.53	0.00
Cobalt	mg/L	0.000005	0.000005	0.000005	0.0000737	0.0000782	5.92	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.000568	0.000596	4.81	0.00
Iron	mg/L	0.001	0.001	0.001	0.0212	0.0267	22.96	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.0000089	0.0000194	**74.20**	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.00569	0.00592	3.96	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.00005	0.00005	0.00105	0.00104	0.96	0.00
Nickel	mg/L	0.00002	0.000174	0.00002	0.00369	0.00362	1.92	**158.76**
Selenium	mg/L	0.00004	0.00004	0.00004	0.000053	0.000051	3.85	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.0000031	0.0000028	10.17	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.000164	0.000159	3.10	0.00
Zinc	mg/L	0.0001	0.00011	0.0001	0.00054	0.00075	**32.56**	9.52
Radionuclides								
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							7%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-38 Whale Tail 2023 EEM QAQC Reference Area Third Portage Lake (ST-MMER-1-EEM-TPS)

ST-MMER-1-EEM-TPS	Sample Date		1/9/2023					
Parameter	**Unit**	**MDL**	**Field Blank**	**Lab Blank**	**Duplicate**	**Original**	**RPD (FD/N)**	**RPD (FB/LB)**
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	8.97	10.7	17.59	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	8.8	7.1	**21.38**	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	1	1.2	18.18	0.00
Cyanide	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	4.8	4.7	2.11	0.00
Nutrients and Chlorophyll a								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.0004	0.0004	0.00	-
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Total Metals								
Aluminum	mg/L	0.0005	0.0005	0.0005	0.00256	0.00291	12.80	0.00
Arsenic	mg/L	0.00002	0.00002	0.00002	0.000185	0.000197	6.28	0.00
Cadmium	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Chromium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00013	**26.09**	0.00
Cobalt	mg/L	0.000005	0.000005	0.000005	0.000005	0.0000056	11.32	0.00
Copper	mg/L	0.00005	0.00005	0.00005	0.000374	0.000394	5.21	0.00
Iron	mg/L	0.001	0.001	0.001	0.0022	0.0033	**40.00**	0.00
Lead	mg/L	0.000005	0.000005	0.000005	0.000005	0.000005	0.00	0.00
Manganese	mg/L	0.00005	0.00005	0.00005	0.000521	0.00056	7.22	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.00005	0.000094	0.00005	0.000151	0.00015	0.66	**61.11**
Nickel	mg/L	0.00002	0.000364	0.00002	0.000614	0.000586	4.67	*179.17*
Selenium	mg/L	0.00004	0.00004	0.00004	0.00004	0.00004	0.00	0.00
Thallium	mg/L	0.000002	0.000002	0.000002	0.000002	0.000002	0.00	0.00
Uranium	mg/L	0.000002	0.000002	0.000002	0.000032	0.0000386	18.70	0.00
Zinc	mg/L	0.0001	0.0001	0.0001	0.00031	0.00038	**20.29**	0.00
Radionuclides								
Radium-226	Bq/l	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-39 Whale Tail 2023 Attenuation Pond Pre-Treatment QAQC (ST-WT-1)

Parameter	Sample Date		1/8/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	97.4	100	2.63	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	52	51	1.94	0.00
TDS	mg/L	10	10	10	10	135	140	3.64	0.00
TSS	mg/L	1	1	1	1	5	7	**33.33**	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	27	28	3.64	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.15	0.15	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	32	32	0.00	0.00
Nutrients									
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	1.7	1.7	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	1.94	1.95	0.51	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.047	0.043	8.89	0.00
Total phosphorus	mg N/L	0.001	0.001	0.001	0.001	0.013	0.014	7.41	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.115	0.113	1.75	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0186	0.0181	2.72	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0486	0.0497	2.24	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00665	0.00818	20.63	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.911	0.761	17.94	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0043	0.00649	40.59	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.235	0.238	1.27	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0236	0.0231	2.14	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0089	0.0073	19.75	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.000325	0.00002	*176.81*	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0071	0.0082	14.38	0.00
% Exceedance*								7%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-40 Whale Tail 2023 IVR Attenuation Pond Discharge to Mammoth Lake East Diffuser QAQC (ST-WT-2a)

Parameter	Sample Date		6/12/2023							7/16/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	75.9	74.1	2.40	-	0.5	-	0.5	145	158	8.58	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1.6	1	24	25	4.08	**46.15**	1	1	1	38	38	0.00	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	1	-	1	1	0.00	-	1	-	1	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	1.6	-	24	25	4.08	-	1	-	1	38	38	0.00	-
TDS	mg/L	10	10	10	10	225	175	25.00	0.00	10	10	10	380	355	6.80	0.00
TSS	mg/L	1	1	1	1	1	1	0.00	0.00	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	0.4	1.8	1.8	0.00	0.00	0.4	0.4	0.4	1.9	1.9	0.00	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.76	0.4	2	1.8	10.53	**62.07**	0.42	0.4	0.44	2	2	0.00	9.52
Major Ions																
Chloride	mg/L	1	1	1	1	29	31	6.67	0.00	1	1	1	50	49	2.02	0.00
Silica	mg/L	0.05	1	0.25	0.05	2.6	2.5	3.92	**133.33**	0.05	0.05	0.05	4.5	4.4	2.25	0.00
Sulfate	mg/L	0.5	0.52	0.5	0.5	31	31	0.00	0.00	0.5	0.5	0.5	56	55	1.80	0.00
Nutrients																
Ammonia (NH_3)	mg/L	0.061	0.061	0.061	-	0.56	0.54	3.64	-	0.061	-	0.061	0.28	0.27	3.64	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.46	0.44	4.44	0.00	0.05	0.05	0.05	0.23	0.22	4.44	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	1.01	1.01	0.00	0.00	0.1	0.1	0.1	3.35	3.26	2.72	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.02	0.02	0.00	0.00	0.01	0.01	0.01	0.086	0.077	11.04	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.1	0.73	0.84	14.01	0.00	0.1	0.1	0.1	0.64	0.57	11.57	0.00
Total phosphorus	mg N/L	0.001	0.001	0.001	0.001	0.0012	0.001	18.18	0.00	0.001	0.001	0.001	0.001	0.0017	**51.85**	0.00
Dissolved phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.0019	0.0035	**59.26**	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals																
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.011	0.0105	4.65	0.00	0.003	0.003	0.003	0.0101	0.0095	6.12	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.00115	0.0011	4.44	0.00	0.0005	0.0005	0.0005	0.00417	0.00444	6.27	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00168	0.00172	2.35	0.00	0.0001	0.0001	0.0001	0.00496	0.00519	4.53	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0342	0.0331	3.27	0.00	0.001	0.001	0.001	0.0544	0.0588	7.77	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000011	0.00001	9.52	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	0.05	-	23.4	23	1.72	-	0.05	-	0.05	44.4	48.3	8.41	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00064	0.00073	13.14	0.00	0.0005	0.0005	0.0005	0.00106	0.00131	**21.10**	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.151	0.155	2.61	0.00	0.01	0.01	0.01	0.25	0.258	3.15	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.0053	0.005	5.83	0.00	0.002	0.002	0.002	0.0087	0.0094	7.73	0.00
Magnesium (total)	mg/L	0.05	0.05	0.05	-	4.23	4.03	4.84	-	0.05	-	0.05	8.16	8.98	9.57	-
Manganese	mg/L	0.001	0.001	0.001	0.001	0.214	0.21	1.89	0.00	0.001	0.001	0.001	0.0984	0.107	8.37	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0038	0.0038	0.00	0.00	0.001	0.001	0.001	0.0099	0.0106	6.83	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0073	0.0076	4.03	0.00	0.001	0.001	0.001	0.0114	0.0126	10.00	0.00
Potassium (total)	mg/L	0.05	0.05	0.05	-	4.37	4.29	1.85	-	0.05	-	0.05	8.73	9.55	8.97	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.00018	0.00023	**24.39**	0.00
Sodium (total)	mg/L	0.05	0.05	0.05	-	5.56	5.43	2.37	-	0.05	-	0.05	6.85	7.62	10.64	-
Strontium	mg/L	0.001	0.001	0.001	0.001	0.23	0.22	4.44	0.00	0.001	0.001	0.001	0.394	0.43	8.74	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.000024	0.000026	8.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00021	0.00021	0.00	0.00	0.0001	0.0001	0.0001	0.0009	0.00098	8.51	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0073	0.0097	**28.24**	0.00	0.005	0.005	0.005	0.0075	0.009	18.18	0.00
Dissolved Metals																
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.003	0.003	0.00	0.00	0.003	0.003	0.003	0.003	0.003	0.00	0.00

Parameter	Sample Date		6/12/2023							7/16/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.00117	0.00115	1.72	0.00	0.0005	0.0005	0.0005	0.00415	0.00431	3.78	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00118	0.00117	0.85	0.00	0.0001	0.0001	0.0001	0.00109	0.00127	15.25	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0367	0.036	1.93	0.00	0.001	0.001	0.001	0.0584	0.0579	0.86	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000011	0.000012	8.70	0.00	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.0002	0.00118	0.00119	0.84	0.00	0.0002	0.0002	0.0002	0.00134	0.00157	15.81	0.00
Iron	mg/L	0.005	0.005	0.005	0.005	0.0245	0.0226	8.07	0.00	0.005	0.005	0.005	0.0097	0.0097	0.00	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.0062	0.0062	0.00	0.00	0.002	0.002	0.002	0.0091	0.0093	2.17	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.226	0.229	1.32	0.00	0.001	0.001	0.001	0.106	0.104	1.90	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0038	0.0039	2.60	0.00	0.001	0.001	0.001	0.0104	0.0102	1.94	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0074	0.0075	1.34	0.00	0.001	0.001	0.001	0.0116	0.012	3.39	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.00021	0.00019	10.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.001	0.243	0.244	0.41	0.00	0.001	0.001	0.001	0.417	0.404	3.17	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000011	0.000013	16.67	0.00	0.00001	0.00001	0.00001	0.000028	0.000027	3.64	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00019	0.00019	0.00	0.00	0.0001	0.0001	0.0001	0.0008	0.00082	2.47	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0113	0.0109	3.60	0.00	0.005	0.005	0.005	0.0082	0.0106	**25.53**	0.00
Volatile Organics																
Petroleum Hydrocarbons F (C10-C50)	mg/L	0.2	0.2	0.2	-	0.2	0.2	0.00	-	0.2	-	0.2	0.2	0.2	0.00	-
% Exceedance*								1%	0%						0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-41 Whale Tail 2023 IVR Attenuation Pond Discharge to Mammoth Lake West Diffuser QAQC (ST-WT-2)

Parameter	Sample Date		6/12/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	79.4	72.2	9.50	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	28	26	7.41	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	1	-	27	26	3.77	-
TDS	mg/L	10	10	10	10	195	225	14.29	0.00
TSS	mg/L	1	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	0.4	1.9	1.8	5.41	0.00
Dissolved organic carbon	mg/L	0.4	0.89	0.81	0.4	1.7	1.7	0.00	**67.77**
Major Ions									
Chloride	mg/L	1	1	1	1	30	30	0.00	0.00
Silica	mg/L	0.05	0.05	0.05	0.05	2.6	2.5	3.92	0.00
Sulfate	mg/L	0.5	0.5	0.67	0.5	32	33	3.08	**29.06**
Nutrients									
Ammonia (NH3)	mg/L	0.061	0.061	0.061	-	0.57	0.55	3.57	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.47	0.45	4.35	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	1.02	1.03	0.98	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.02	0.02	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.1	0.62	0.61	1.63	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.0013	0.0016	**20.69**	0.00
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.013	**26.09**	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0096	0.0072	**28.57**	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.00115	0.00109	5.36	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0017	0.00169	0.59	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0347	0.0322	7.47	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	0.05	-	24.6	22.4	9.36	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00068	0.00074	8.45	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.158	0.155	1.92	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.0061	0.0059	3.33	0.00
Magnesium (total)	mg/L	0.05	0.05	0.05	-	4.34	3.96	9.16	-
Manganese	mg/L	0.001	0.001	0.001	0.001	0.233	0.205	12.79	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0038	0.0036	5.41	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0078	0.0072	8.00	0.00
Potassium (total)	mg/L	0.05	0.05	0.05	-	4.49	4.1	9.08	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	0.05	-	5.5	5.01	9.32	-

Parameter	Sample Date		6/12/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Strontium	mg/L	0.001	0.001	0.001	0.001	0.235	0.22	6.59	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00022	0.00021	4.65	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0056	0.005	11.32	0.00
Dissolved Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.003	0.0036	18.18	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.0005	0.00117	0.00116	0.86	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00118	0.00116	1.71	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0355	0.0359	1.12	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.0002	0.00398	0.00403	1.25	0.00
Iron	mg/L	0.005	0.005	0.005	0.005	0.0265	0.0214	**21.29**	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.0059	0.0058	1.71	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.219	0.223	1.81	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0038	0.0038	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0077	0.0075	2.63	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.001	0.241	0.237	1.67	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.00	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0057	0.0055	3.57	0.00
Volatile Organics									
Petroleum Hydrocarbons F (C10-C50)	mg/L	0.2	0.2	0.2	-	0.2	0.2	0.00	-
% Exceedance*								0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-42 Whale Tail 2023 WRSF QAQC (ST-WT-3)

Parameter	Sample Date		6/11/2023							7/3/2023					
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters															
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	52.7	53.5	1.51	-	0.5	-	92.2	85.5	7.54	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	22	21	4.65	0.00	1	1	29	30	3.39	0.00
TDS	mg/L	10	10	10	-	100	105	4.88	-	10	-	155	145	6.67	-
TSS	mg/L	1	1	1	1	4	6	**40.00**	0.00	1	1	2	4	**66.67**	0.00
Major Ions															
Chloride	mg/L	1	1	1	1	1.4	1.3	7.41	0.00	1	1	1.9	2	5.13	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	40	40	0.00	0.00	0.71	0.5	70	69	1.44	**34.71**
Nutrients															
Ammonia (NH_3)	mg/L	0.061	0.061	0.061	-	0.061	0.061	0.00	-	0.076	-	0.11	0.061	**57.31**	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.062	0.05	0.09	0.05	**57.14**	**21.43**
Nitrate	mg N/L	0.1	0.1	0.1	0.1	0.89	0.93	4.40	0.00	0.1	0.1	2.42	2.4	0.83	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.009	0.01	10.53	0.00	0.001	0.001	0.0033	0.005	**40.96**	0.00
Total Metals															
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.137	0.152	10.38	0.00	0.003	0.003	0.0633	0.091	35.90	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00454	0.00467	2.82	0.00	0.0001	0.0001	0.00465	0.00453	2.61	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0251	0.0257	2.36	0.00	0.001	0.001	0.0381	0.0364	4.56	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.000011	0.00001	9.52	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.002	0.0023	13.95	0.00	0.001	0.001	0.0013	0.0018	**32.26**	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0017	0.00178	4.60	0.00	0.0005	0.0005	0.0016	0.00152	5.13	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.241	0.27	11.35	0.00	0.01	0.01	0.156	0.187	18.08	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00022	9.52	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0177	0.0183	3.33	0.00	0.001	0.001	0.0216	0.0215	0.46	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.0012	0.0011	8.70	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0075	0.0076	1.32	0.00	0.001	0.001	0.0053	0.005	5.83	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00021	0.00022	4.65	0.00	0.0001	0.0001	0.00053	0.00049	7.84	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000014	0.000014	0.00	0.00	0.00001	0.00001	0.000023	0.000022	4.44	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals															
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0188	0.0235	**22.22**	0.00	0.003	0.003	0.0128	0.0126	1.57	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.00389	0.00411	5.50	0.00	0.0001	0.0001	0.00428	0.00387	10.06	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.026	0.0265	1.90	0.00	0.001	0.001	0.0391	0.0394	0.76	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000013	0.000013	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.002	0.001	**66.67**	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.0002	0.00202	0.00247	20.04	0.00	0.0002	0.0002	0.00206	0.00187	9.67	0.00
Iron	mg/L	0.005	0.005	0.005	0.005	0.0328	0.0403	**20.52**	0.00	0.005	0.005	0.0473	0.0335	**34.16**	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0167	0.0184	9.69	0.00	0.001	0.001	0.0224	0.0201	10.82	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.0012	0.0012	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.007	0.007	0.00	0.00	0.001	0.001	0.0054	0.0047	13.86	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00023	0.00023	0.00	0.00	0.0001	0.0001	0.00049	0.00051	4.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.000234	*168.50*	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000014	0.000014	0.00	0.00	0.00001	0.00001	0.00002	0.00002	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								2%	0%					2%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-43 Whale Tail 2023 WT Pit Sump QAQC (ST-WT-4)

Parameter	Sample Date		1/8/2023						3/10/2023						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters															
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	133	136	2.23	-	0.5	0.5	-	118	119	0.84	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	64	65	1.55	0.00	1	1	1	67	66	1.50	0.00
TDS	mg/L	10	10	10	200	155	25.35	0.00	10	10	10	220	205	7.06	0.00
TSS	mg/L	1	1	1	55	47	15.69	0.00	1	1	1	5	5	0.00	0.00
Major Ions															
Chloride	mg/L	1	1	1	40	40	0.00	0.00	1	1	1	34	34	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.22	0.22	0.00	0.00	0.1	0.1	0.1	0.21	0.21	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	37	37	0.00	0.00	0.5	0.5	0.5	32	33	3.08	0.00
Nutrients															
Ammonia (NH_3)	mg/L	0.061	0.061	-	2	2	0.00	-	0.061	0.061	-	4.4	4.6	4.44	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	1.6	1.6	0.00	0.00	0.05	0.05	0.05	3.6	3.8	5.41	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.43	0.44	2.30	0.00	0.1	0.1	0.1	3.63	3.58	1.39	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.018	0.019	5.41	0.00	0.01	0.01	0.01	0.096	0.093	3.17	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.057	0.049	15.09	0.00	0.001	0.001	0.001	0.018	0.017	5.71	0.00
Total Metals															
Aluminum	mg/L	0.003	0.003	0.001	1.48	1.49	0.67	**100.00**	0.003	0.003	0.003	0.139	0.13	6.69	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.244	0.251	2.83	0.00	0.0001	0.0001	0.0001	0.0283	0.0284	0.35	0.00
Barium	mg/L	0.001	0.001	0.001	0.0818	0.0834	1.94	0.00	0.001	0.001	0.001	0.0711	0.0714	0.42	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000021	0.00002	4.88	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0639	0.0644	0.78	0.00	0.001	0.001	0.001	0.0015	0.0051	**109.09**	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00199	0.00198	0.50	0.00	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	3.45	3.42	0.87	0.00	0.01	0.01	0.01	0.441	0.417	5.59	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0013	0.00131	0.77	0.00	0.0002	0.0002	0.0002	0.00057	0.00048	17.14	0.00
Manganese	mg/L	0.001	0.001	0.001	0.232	0.233	0.43	0.00	0.001	0.001	0.001	0.158	0.167	5.54	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0352	0.0358	1.69	0.00	0.001	0.001	0.001	0.0334	0.0378	12.36	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0759	0.0766	0.92	0.00	0.001	0.001	0.001	0.0059	0.0221	*115.71*	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00032	0.00035	8.96	0.00	0.0001	0.0001	0.0001	0.00015	0.00015	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000037	0.000032	14.49	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							4%	0%						0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-44 Whale Tail 2023 South Whale Tail Channel (Lake A45) QAQC (ST-WT-13)

Parameter	Sample Date		7/2/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
TSS	mg/L	1	1	1	1	1	0.00	0.00
Major Ions								
Sulfate	mg/L	1	1	1	6.3	6.1	3.23	0.00
Nutrients								
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.088	0.05	**55.07**	0.00
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	0.00061	0.00061	0.00	-
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0117	0.0115	1.72	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00157	0.00144	8.64	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0015	**40.00**	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-45 Whale Tail 2023 Lake A16 Outlet QAQC (ST-WT-14)

Parameter	Sample Date		7/2/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	34.4	36.9	7.01	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	14	14	0.00	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	-	14	14	0.00	-
TDS	mg/L	10	10	10	80	80	0.00	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	2.1	2.1	0.00	0.00
Dissolved organic carbon	mg/L	0.4	0.49	0.4	2.1	2.1	0.00	**20.22**
Major Ions								
Chloride	mg/L	1	1	1	10	10	0.00	0.00
Silica	mg/L	0.05	0.05	0.05	0.5	0.58	14.81	0.00
Sulfate	mg/L	0.5	0.73	0.58	13	13	0.00	**22.90**
Nutrients								
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.061	0.072	16.54	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.059	16.51	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.29	0.28	3.51	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	0.16	0.15	6.45	0.00
Total phosphorus	mg P/L	0.001	0.001	0.0012	0.001	0.0014	**33.33**	18.18
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0055	0.0064	15.13	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.00052	0.00055	5.61	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0007	0.00069	1.44	0.00
Barium	mg/L	0.001	0.001	0.001	0.0139	0.0146	4.91	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	-	9.69	10.6	8.97	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	0.018	0.018	0.00	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	-	2.49	2.53	1.59	-
Manganese	mg/L	0.001	0.001	0.001	0.0023	0.0024	4.26	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Potassium (total)	mg/L	0.05	0.05	-	2.44	2.46	0.82	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	-	2.02	2.07	2.44	-
Strontium	mg/L	0.001	0.001	0.001	0.0707	0.0738	4.29	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00

Parameter	Sample Date		7/2/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0033	0.0037	11.43	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.00059	0.00057	3.45	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00083	0.00091	9.20	0.00
Barium	mg/L	0.001	0.001	0.001	0.0155	0.0153	1.30	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.00081	0.00096	16.95	0.00
Iron	mg/L	0.005	0.005	0.005	0.0061	0.0081	**28.17**	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0014	0.0024	**52.63**	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0013	**26.09**	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.0793	0.0784	1.14	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-46 Whale Tail 2023 Lake A15 QAQC (ST-WT-15)

Parameter	Sample Date		7/2/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	35.3	35.9	1.69	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	14	13	7.41	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	-	14	13	7.41	-
TDS	mg/L	10	10	10	85	65	**26.67**	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	2	2.2	9.52	0.00
Dissolved organic carbon	mg/L	0.4	0.48	0.4	1.9	2	5.13	18.18
Major Ions								
Chloride	mg/L	1	1	1	11	11	0.00	0.00
Silica	mg/L	0.05	0.05	0.05	0.59	0.58	1.71	0.00
Sulfate	mg/L	0.5	0.68	0.58	13	13	0.00	15.87
Nutrients								
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.31	0.35	12.12	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.23	0.1	0.18	0.12	**40.00**	**78.79**
Total phosphorus	mg P/L	0.001	0.001	0.0012	0.001	0.001	0.00	18.18
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0047	0.0069	**37.93**	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.00055	0.00053	3.70	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00056	0.00059	5.22	0.00
Barium	mg/L	0.001	0.001	0.001	0.0149	0.0145	2.72	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	-	9.88	10.2	3.19	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.0005	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	0.015	0.019	**23.53**	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	-	2.58	2.51	2.75	-
Manganese	mg/L	0.001	0.001	0.001	0.001	0.0011	9.52	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Potassium (total)	mg/L	0.05	0.05	-	2.49	2.43	2.44	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Sodium (total)	mg/L	0.05	0.05	-	2.12	2.07	2.39	-
Strontium	mg/L	0.001	0.001	0.001	0.073	0.0725	0.69	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Dissolved Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0031	3.28	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.00058	0.00058	0.00	0.00

Parameter	Sample Date		7/2/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00072	0.00072	0.00	0.00
Barium	mg/L	0.001	0.001	0.001	0.0161	0.0163	1.23	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.00084	0.00083	1.20	0.00
Iron	mg/L	0.005	0.005	0.005	0.005	0.0058	14.81	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.081	0.0806	0.50	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-47 Whale Tail 2023 Dike Seepage QAQC (ST-WT-17)

Parameter	Sample Date		1/1/2023						2/19/2023	
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original
Conventional Parameters										
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	68.8	68	1.17	-	0.5	73.1
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	33	36	8.70	0.00	1.6	37
TDS	mg/L	10	10	10	125	95	*27.27*	0.00	10	130
TSS	mg/L	1	1	1	13	6	*73.68*	0.00	1	8
Major Ions										
Chloride	mg/L	1	1	1	16	16	0.00	0.00	1	18
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1
Sulfate	mg/L	0.5	0.5	0.5	23	24	4.26	0.00	1.3	25
Nutrients										
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.1	0.061	**48.45**	-	0.061	0.061
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.085	0.05	**51.85**	0.00	0.05	0.05
Nitrate	mg N/L	0.1	0.1	0.1	0.4	0.4	0.00	0.00	0.1	0.43
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01
Total phosphorus	mg P/L	0.001	0.001	0.001	0.0015	0.0026	**53.66**	0.00	0.0013	0.007
Total Metals										
Aluminum	mg/L	0.003	0.003	0.003	0.131	0.149	12.86	0.00	0.003	0.0889
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00554	0.00552	0.36	0.00	0.0001	0.0048
Barium	mg/L	0.001	0.001	0.001	0.0325	0.0324	0.31	0.00	0.001	0.0365
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000012	0.000012	0.00	0.00	0.00001	0.00001
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.0026
Copper	mg/L	0.0005	0.0005	0.0005	0.00137	0.00133	2.96	0.00	0.0005	0.00118
Iron	mg/L	0.01	0.01	0.01	0.943	0.974	3.23	0.00	0.01	0.976
Lead	mg/L	0.0002	0.0002	0.0002	0.00024	0.00024	0.00	0.00	0.0002	0.0002
Manganese	mg/L	0.001	0.001	0.001	0.152	0.153	0.66	0.00	0.001	0.17
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001
Molybdenum	mg/L	0.001	0.001	0.001	0.0015	0.0015	0.00	0.00	0.001	0.0034
Nickel	mg/L	0.001	0.001	0.001	0.0013	0.0013	0.00	0.00	0.001	0.0098
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00	0.00001	0.00001
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005
% Exceedance*							0%	0%		

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-48 Whale Tail 2023 IVR Pit Sump QAQC (ST-WT-18)

Parameter	Sample Date		6/20/2023						6/26/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters														
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	107	109	1.85	-	0.5	-	201	202	0.50	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	57	56	1.77	0.00	1	1	89	87	2.27	0.00
TDS	mg/L	10	10	10	185	175	5.56	0.00	10	10	365	405	10.39	0.00
TSS	mg/L	1	1	1	8	5	**46.15**	0.00	1	1	9	8	11.76	0.00
Major Ions														
Chloride	mg/L	1	1	1	21	21	0.00	0.00	1	1	41	40	2.47	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.15	0.15	0.00	0.00	0.1	0.1	0.22	0.22	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	57	56	1.77	0.00	0.66	0.5	120	120	0.00	**27.59**
Nutrients														
Ammonia (NH_3)	mg/L	0.061	0.061	-	2.9	2.9	0.00	-	0.061	-	6.8	6.6	2.99	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	2.4	2.4	0.00	0.00	0.05	0.05	5.6	5.4	3.64	0.00
Nitrate	mg N/L	0.1	0.1	0.1	3.21	3.36	4.57	0.00	0.1	0.1	7.92	7.92	0.00	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.101	0.102	0.99	0.00	0.01	0.01	0.242	0.24	0.83	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.015	0.016	6.45	0.00	0.001	0.001	0.031	0.032	3.17	0.00
Total Metals														
Aluminum	mg/L	0.003	0.003	0.003	0.175	0.168	4.08	0.00	0.003	0.003	0.324	0.309	4.74	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.3	0.306	1.98	0.00	0.0001	0.0001	0.515	0.51	0.98	0.00
Barium	mg/L	0.001	0.001	0.001	0.0255	0.0264	3.47	0.00	0.001	0.001	0.0362	0.0362	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.000013	**26.09**	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0038	0.0035	8.22	0.00	0.001	0.001	0.0058	0.0059	1.71	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00111	0.00118	6.11	0.00	0.0005	0.0005	0.002	0.00204	1.98	0.00
Iron	mg/L	0.01	0.01	0.01	0.351	0.33	6.17	0.00	0.01	0.01	0.606	0.581	4.21	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.00041	0.00064	**43.81**	0.00
Manganese	mg/L	0.001	0.001	0.001	0.114	0.116	1.74	0.00	0.001	0.001	0.187	0.189	1.06	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0204	0.0209	2.42	0.00	0.001	0.001	0.0392	0.0386	1.54	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0393	0.0404	2.76	0.00	0.001	0.001	0.0693	0.0704	1.57	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00047	0.00047	0.00	0.00	0.0001	0.0001	0.00074	0.00073	1.36	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000015	0.000016	6.45	0.00	0.00001	0.00001	0.000024	0.000024	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%					0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-49 Whale Tail 2023 Groundwater Storage Pond Effluent – GSP-1 QAQC (ST-WT-20)

Parameter	Sample Date		2/19/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters									
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	5320	5140	3.44	-
Total alkalinity, as $CaCO_3$	mg/L	1	1.5	1	1.5	49	50	2.02	**40.00**
TDS	mg/L	10	10	10	10	6020	6170	2.46	0.00
TSS	mg/L	1	1	1	1	4	5	**22.22**	0.00
Major Ions									
Chloride	mg/L	1	1	1	1	3300	3200	3.08	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	1.1	0.5	0.5	110	110	0.00	0.00
Nutrients									
Ammonia (NH_3)	mg/L	0.061	0.061	0.061	-	43	44	2.30	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	36	36	0.00	0.00
Un-Ionized Ammonia, calculated	mg N/L	-	-	-	-	-	0.025	-	-
Nitrate	mg N/L	0.1	0.1	0.1	0.1	108	105	2.82	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	3.5	3.53	0.85	0.00
Total Metals									
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.03	0.03	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0068	0.0066	2.99	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.822	0.794	3.47	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00274	0.00267	2.59	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.01	0.01	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.005	0.005	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.1	0.1	0.00	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.002	0.002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	5.35	5.25	1.89	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.01	0.01	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.221	0.22	0.45	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0011	0.0011	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.0002	0.0002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.0004	0.00038	5.13	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.05	0.05	0.00	0.00
% Exceedance*								0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-50 Whale Tail 2023 STP QAQC (ST-WT-11)

Parameter	Sample Date		1/3/2023						4/4/2023	
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Original
Conventional Parameters										
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	80.3	76.2	5.24	-	0.5	90.3
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	54	49	9.71	0.00	1	35
TDS	mg/L	10	10	10	315	345	9.09	0.00	10	305
TSS	mg/L	1	1	1	3	11	*114.29*	0.00	1	1
Major Ions										
Chloride	mg/L	1	1	1	75	76	1.32	0.00	1	77
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1
Sulfate	mg/L	0.5	0.5	0.5	36	41	12.99	0.00	0.5	97
Nutrients										
Ammonia (as NH3)	mg/L	0.061	0.061	-	0.11	0.061	**57.31**	-	0.061	0.076
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.088	0.05	**55.07**	0.00	0.05	0.062
Nitrate	mg N/L	0.1	0.1	0.1	11.1	11.9	6.96	0.00	0.1	2.35
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	-	0.01	0.044
Biochemical Oxygen Demand, 5 Day	mg/L	2	2	2	5	6	18.18	0.00	2	2
Total phosphorus	mg P/L	0.001	0.0013	0.001	1.2	1	18.18	**26.09**	0.001	0.037
Orthophosphate	mg P/L	0.01	0.01	0.01	1	0.84	17.39	0.00	0.01	0.024
General Organics										
Total oil and grease	mg/L	0.5	0.5	0.5	2.7	3	10.53	0.00	0.6	0.5
Total Metals										
Aluminum	mg/L	0.003	0.003	0.003	0.427	0.144	99.12	0.00	0.003	0.0264
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00543	0.00517	4.91	0.00	0.0001	0.00112
Barium	mg/L	0.001	0.001	0.001	0.0076	0.0053	**35.66**	0.00	0.001	0.0053
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000024	0.000012	**66.67**	0.00	0.00001	0.00001
Chromium	mg/L	0.001	0.001	0.001	0.0028	0.001	**94.74**	0.00	0.001	0.001
Copper	mg/L	0.0005	0.0005	0.0005	0.00532	0.00406	*26.87*	0.00	0.0005	0.00257
Iron	mg/L	0.01	0.01	0.01	0.269	0.101	90.81	0.00	0.01	0.026
Lead	mg/L	0.0002	0.0002	0.0002	0.00091	0.00069	**27.50**	0.00	0.0002	0.00047
Manganese	mg/L	0.001	0.001	0.001	0.0133	0.0104	24.47	0.00	0.001	0.0346
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001
Molybdenum	mg/L	0.001	0.001	0.001	0.0016	0.0015	6.45	0.00	0.001	0.0012
Nickel	mg/L	0.001	0.001	0.001	0.0054	0.005	7.69	0.00	0.001	0.006
Selenium	mg/L	0.0001	0.0001	0.0001	0.00012	0.00012	0.00	0.00	0.0001	0.0001
Silver	mg/L	0.00002	0.00002	0.00002	0.00004	0.00002	**66.67**	0.00	0.00002	0.00002
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001
Zinc	mg/L	0.005	0.005	0.005	0.0542	0.0518	4.53	0.00	0.005	0.0566
% Exceedance*							10%	0%		

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-51 Whale Tail 2023 Discharge to Whale Tail South via Permanent Diffuser QAQC (ST-WT-24)

Parameter	Sample Date		1/9/2023						3/20/2023						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters															
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	149	156	4.59	-	0.5	0.5	-	120	123	2.47	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	63	64	1.57	0.00	1.4	1	1	50	52	3.92	0.00
Carbonate, as $CaCO_3$	mg/L	1	1	-	1	1	0.00	-	1	1	-	1	1	0.00	-
Bicarbonate, as $CaCO_3$	mg/L	1	1	-	62	63	1.60	-	1.4	1	-	50	51	1.98	-
TDS	mg/L	10	10	10	210	195	7.41	0.00	10	10	10	220	190	14.63	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00	1	1	1	1	2	**66.67**	0.00
Total organic carbon	mg/L	0.4	0.4	0.4	2.7	2.8	3.64	0.00	0.4	0.4	0.4	2.3	2.3	0.00	0.00
Dissolved organic carbon	mg/L	0.4	0.4	0.4	2.6	2.6	0.00	0.00	0.4	0.67	0.4	2.1	2.2	4.65	**50.47**
Major Ions															
Chloride	mg/L	1	1	1	39	39	0.00	0.00	1	1	1	32	31	3.17	0.00
Silica	mg/L	0.05	0.05	0.05	8.6	8.7	1.16	0.00	0.05	0.3	0.05	8.1	8	1.24	**142.86**
Sulfate	mg/L	0.5	0.5	0.5	65	66	1.53	0.00	0.5	0.5	0.5	45	46	2.20	0.00
Nutrients															
Ammonia (NH_3)	mg/L	0.061	0.061	-	2.1	2.2	4.65	-	0.061	0.061	-	2.7	2.7	0.00	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	1.8	1.8	0.00	0.00	0.05	0.05	0.05	2.3	2.2	4.44	0.00
Nitrate	mg N/L	0.1	0.1	0.1	3.15	3.15	0.00	0.00	0.1	0.1	0.1	3.12	2.83	9.75	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.075	0.078	3.92	0.00	0.01	0.01	0.01	0.084	0.08	4.88	0.00
Total Kjeldahl nitrogen	mg N/L	0.1	0.1	0.1	1.7	1.6	6.06	0.00	0.1	0.1	0.1	2.6	2.3	12.24	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.0013	0.001	0.001	0.005	**133.33**	**26.09**
Orthophosphate	mg P/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals															
Aluminum	mg/L	0.003	0.003	0.003	0.0062	0.0062	0.00	0.00	0.003	0.003	0.003	0.0084	0.0093	10.17	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.00332	0.00334	0.60	0.00	0.0005	0.0005	0.0005	0.00105	0.0011	4.65	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00344	0.00362	5.10	0.00	0.0001	0.0001	0.0001	0.0012	0.00135	11.76	0.00
Barium	mg/L	0.001	0.001	0.001	0.063	0.0625	0.80	0.00	0.001	0.001	0.001	0.0611	0.0644	5.26	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000012	18.18	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Calcium (total)	mg/L	0.05	0.05	-	43.6	46.4	6.22	-	0.05	0.05	-	36.1	37.1	2.73	-
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00146	0.00149	2.03	0.00	0.0005	0.0005	0.0005	0.0008	0.0009	11.76	0.00
Iron	mg/L	0.01	0.01	0.01	0.221	0.228	3.12	0.00	0.01	0.01	0.01	0.262	0.385	38.02	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.206	*199.61*	0.00
Lithium	mg/L	0.002	0.002	0.002	0.0066	0.0068	2.99	0.00	0.002	0.002	0.002	0.0046	0.0046	0.00	0.00
Magnesium (total)	mg/L	0.05	0.05	-	9.64	9.79	1.54	-	0.05	0.05	-	7.27	7.51	3.25	-
Manganese	mg/L	0.001	0.001	0.001	0.345	0.349	1.15	0.00	0.001	0.001	0.001	0.355	0.361	1.68	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0174	0.0172	1.16	0.00	0.001	0.001	0.001	0.0159	0.0164	3.10	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0187	0.0191	2.12	0.00	0.001	0.001	0.001	0.0071	0.0075	5.48	0.00
Potassium (total)	mg/L	0.05	0.05	-	8.9	9.2	3.31	-	0.05	0.05	-	6.07	6.35	4.51	-
Selenium	mg/L	0.0001	0.0001	0.0001	0.00016	0.00017	6.06	0.00	0.0001	0.0001	0.0001	0.00013	0.00012	8.00	0.00
Sodium (total)	mg/L	0.05	0.05	-	9.16	9.28	1.30	-	0.05	0.05	-	6.96	7.2	3.39	-

Parameter	Sample Date		1/9/2023						3/20/2023						
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Strontium	mg/L	0.001	0.001	0.001	0.387	0.382	1.30	0.00	0.001	0.001	0.001	0.268	0.278	3.66	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000019	0.000019	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.00197	0.00199	1.01	0.00	0.0001	0.0001	0.0001	0.00103	0.00106	2.87	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.0067	0.0067	0.00	0.00	0.005	0.005	0.005	0.0076	0.0079	3.87	0.00
Dissolved Metals															
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.003	0.00	0.00	0.003	0.003	0.003	0.003	0.003	0.00	0.00
Antimony	mg/L	0.0005	0.0005	0.0005	0.00332	0.00355	6.70	0.00	0.0005	0.0005	0.0005	0.00109	0.00109	0.00	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00109	0.00196	57.05	0.00	0.0001	0.0001	0.0001	0.00086	0.00084	2.35	0.00
Barium	mg/L	0.001	0.001	0.001	0.0619	0.0634	2.39	0.00	0.001	0.001	0.001	0.0635	0.0629	0.95	0.00
Beryllium	mg/L	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Boron	mg/L	0.05	0.05	0.05	0.05	0.05	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.00	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.000011	9.52	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0002	0.0002	0.0002	0.00163	0.00144	12.38	0.00	0.0002	0.0002	0.0002	0.0009	0.00096	6.45	0.00
Iron	mg/L	0.005	0.005	0.005	0.0781	0.0586	28.53	0.00	0.005	0.005	0.005	0.0779	0.0846	8.25	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Lithium	mg/L	0.002	0.002	0.002	0.0066	0.0071	7.30	0.00	0.002	0.002	0.002	0.0049	0.0046	6.32	0.00
Manganese	mg/L	0.001	0.001	0.001	0.335	0.334	0.30	0.00	0.001	0.001	0.001	0.318	0.361	12.67	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00002	0.00001	0.00001	0.00001	0.00	**66.67**
Molybdenum	mg/L	0.001	0.001	0.001	0.0171	0.0165	3.57	0.00	0.001	0.001	0.001	0.0161	0.0161	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.019	0.0201	5.63	0.00	0.001	0.001	0.001	0.0066	0.0071	7.30	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00019	0.0002	5.13	0.00	0.0001	0.0001	0.0001	0.0001	0.0001	0.00	0.00
Strontium	mg/L	0.001	0.001	0.001	0.358	0.386	7.53	0.00	0.001	0.001	0.001	0.259	0.274	5.63	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000017	0.000019	11.11	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Tin	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Titanium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Uranium	mg/L	0.0001	0.0001	0.0001	0.00204	0.00198	2.99	0.00	0.0001	0.0001	0.0001	0.00105	0.00103	1.92	0.00
Vanadium	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.0068	0.011	47.19	0.00	0.005	0.005	0.005	0.0076	0.0076	0.00	0.00
Volatile Organics															
Petroleum Hydrocarbons F (C10-C50)	mg/L	0.2	0.2	0.2	0.2	0.2	0.00	0.00	0.2	0.2	-	0.2	0.2	0.00	-
% Exceedance*							3%	0%						1%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-52 Whale Tail 2023 IVR WRSF QAQC (ST-WT-28)

Parameter	Sample Date		8/6/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	689	632	8.63	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	76	84	10.00	0.00
TDS	mg/L	10	10	10	1390	1220	13.03	0.00
TSS	mg/L	1	1	1	10	10	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	510	740	36.80	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.11	9.52	0.00
Sulfate	mg/L	0.5	0.5	0.5	100	110	9.52	0.00
Nutrients								
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.29	0.28	3.51	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.24	0.23	4.26	0.00
Nitrate	mg N/L	0.1	0.1	0.1	6.73	7.02	4.22	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.057	0.066	14.63	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.156	0.147	5.94	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.166	0.152	8.81	0.00
Barium	mg/L	0.001	0.001	0.001	0.125	0.113	10.08	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000194	0.000178	8.60	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0044	0.0042	4.65	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00088	0.00079	10.78	0.00
Iron	mg/L	0.01	0.01	0.01	0.297	0.282	5.18	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00061	0.00048	**23.85**	0.00
Manganese	mg/L	0.001	0.001	0.001	1.88	1.72	8.89	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0019	0.0017	11.11	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0538	0.0488	9.75	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00047	0.00044	6.59	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.0001	0.000091	9.42	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							4%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-53 Whale Tail 2023 Whale Tail WRSF QAQC (ST-WT-30)

Parameter	Sample Date		6/11/2023						7/2/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters														
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	47	48	2.11	-	0.5	-	68.2	68	0.29	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	26	26	0.00	0.00	1	1	32	32	0.00	0.00
TDS	mg/L	10	10	10	120	115	4.26	0.00	10	10	105	125	17.39	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00	1	1	1	2	**66.67**	0.00
Major Ions														
Chloride	mg/L	1	1	1	1.2	1.5	**22.22**	0.00	1	1	1	1	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	28	28	0.00	0.00	0.94	0.58	41	42	2.41	**47.37**
Nutrients														
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.064	0.061	4.80	-	0.061	-	0.13	0.061	**72.25**	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.053	0.05	5.83	0.00	0.05	0.05	0.11	0.05	**75.00**	0.00
Nitrate	mg N/L	0.1	0.1	0.1	1.64	1.68	2.41	0.00	0.1	0.1	1.97	1.91	3.09	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals														
Aluminum	mg/L	0.003	0.003	0.003	0.0728	0.0665	9.05	0.00	0.003	0.003	0.0313	0.0323	3.14	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00316	0.00323	2.19	0.00	0.0001	0.0001	0.00315	0.00311	1.28	0.00
Barium	mg/L	0.001	0.001	0.001	0.0308	0.0311	0.97	0.00	0.001	0.001	0.0429	0.0419	2.36	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000014	0.000011	**24.00**	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.002	0.0014	**35.29**	0.00	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00126	0.00121	4.05	0.00	0.0005	0.0005	0.00122	0.00117	4.18	0.00
Iron	mg/L	0.01	0.01	0.01	0.133	0.126	5.41	0.00	0.01	0.01	0.05	0.06	18.18	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.045	0.0458	1.76	0.00	0.001	0.001	0.0204	0.0213	4.32	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.001	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0072	0.0072	0.00	0.00	0.001	0.001	0.0063	0.0064	1.57	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0007	0.00072	2.82	0.00	0.0001	0.0001	0.00071	0.00073	2.78	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.000014	0.000014	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%					0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-54 Whale Tail 2023 Whale Tail WRSF QAQC (ST-WT-31)

Parameter	Sample Date		6/11/2023						7/2/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters														
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	33.3	32.1	3.67	-	0.5	-	75.6	80.3	6.03	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	25	24	4.08	0.00	1	1	49	45	8.51	0.00
TDS	mg/L	10	10	10	120	115	4.26	0.00	10	10	115	110	4.44	0.00
TSS	mg/L	1	1	1	1	1	0.00	0.00	1	1	1	1	0.00	0.00
Major Ions														
Chloride	mg/L	1	1	1	1.6	1.8	11.76	0.00	1	1	2.1	1.7	**21.05**	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	16	16	0.00	0.00	0.63	0.52	50	48	4.08	19.13
Nutrients														
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.21	0.069	**101.08**	-	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.17	0.057	**99.56**	0.00	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.41	0.4	2.47	0.00	0.1	0.1	1.78	1.88	5.46	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals														
Aluminum	mg/L	0.003	0.0174	0.003	0.144	0.114	23.26	**141.18**	0.003	0.003	0.0411	0.0885	73.15	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00711	0.00684	3.87	0.00	0.0001	0.0001	0.0142	0.0161	12.54	0.00
Barium	mg/L	0.001	0.001	0.001	0.0211	0.0202	4.36	0.00	0.001	0.001	0.0384	0.0427	10.60	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000016	0.000015	6.45	0.00	0.00001	0.00001	0.000025	0.000031	**21.43**	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0032	0.0028	13.33	0.00	0.001	0.001	0.0011	0.0022	**66.67**	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0022	0.00208	5.61	0.00	0.0005	0.0005	0.0017	0.00186	8.99	0.00
Iron	mg/L	0.01	0.01	0.01	0.261	0.213	20.25	0.00	0.01	0.01	0.094	0.171	*58.11*	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00025	0.00022	12.77	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0657	0.0618	6.12	0.00	0.001	0.001	0.13	0.138	5.97	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.0011	0.0012	8.70	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0092	0.0089	3.31	0.00	0.001	0.001	0.013	0.0141	8.12	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00029	0.00028	3.51	0.00	0.0001	0.0001	0.00059	0.00064	8.13	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000015	0.000012	**22.22**	0.00	0.00001	0.00001	0.000027	0.000028	3.64	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							7%	0%					4%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-55 Whale Tail 2023 Whale Tail WRSF QAQC (ST-WT-32)

Parameter	Sample Date		6/11/2023						8/6/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters														
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	30.7	28.7	6.73	-	0.5	-	133	136	2.23	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	15	15	0.00	0.00	1	1	22	22	0.00	0.00
TDS	mg/L	10	10	10	55	60	8.70	0.00	10	10	245	255	4.00	0.00
TSS	mg/L	1	1	1	2	2	0.00	0.00	1	1	1	2	**66.67**	0.00
Major Ions														
Chloride	mg/L	1	1	1	1	1	0.00	0.00	1	1	1.4	1.7	19.35	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	19	19	0.00	0.00	0.5	0.5	110	110	0.00	0.00
Nutrients														
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.27	0.061	**126.28**	-	0.061	-	0.061	0.088	**36.24**	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.22	0.05	**125.93**	0.00	0.05	0.05	0.05	0.072	**36.07**	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.41	0.42	2.41	0.00	0.1	0.1	8.15	8.01	1.73	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals														
Aluminum	mg/L	0.003	0.003	0.003	0.0851	0.0884	3.80	0.00	0.003	0.003	0.0376	0.0447	17.25	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00532	0.00533	0.19	0.00	0.0001	0.0001	0.00268	0.00271	1.11	0.00
Barium	mg/L	0.001	0.001	0.001	0.0269	0.0252	6.53	0.00	0.001	0.001	0.082	0.0826	0.73	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000014	0.000014	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0011	0.0011	0.00	0.00	0.001	0.001	0.001	0.001	0.00	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00128	0.00119	7.29	0.00	0.0005	0.0005	0.00061	0.00063	3.23	0.00
Iron	mg/L	0.01	0.01	0.01	0.096	0.109	12.68	0.00	0.01	0.01	0.063	0.077	20.00	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.0002	0.00	0.00	0.0002	0.0002	0.0002	0.0002	0.00	0.00
Manganese	mg/L	0.001	0.001	0.001	0.0304	0.0315	3.55	0.00	0.001	0.001	0.0063	0.007	10.53	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.0019	0.0019	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0068	0.0063	7.63	0.00	0.001	0.001	0.0051	0.0053	3.85	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00021	0.00022	4.65	0.00	0.0001	0.0001	0.00254	0.00249	1.99	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000012	0.000012	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							0%	0%					0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-56 Whale Tail 2023 Whale Tail WRSF QAQC (ST-WT-33)

Parameter	Sample Date		6/11/2023						7/2/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters														
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	52.1	54.5	4.50	-	0.5	-	81.3	77	5.43	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	53	53	0.00	0.00	1	1	71	71	0.00	0.00
TDS	mg/L	10	10	10	95	125	*27.27*	0.00	10	10	140	115	19.61	0.00
TSS	mg/L	1	1	1	17	13	26.67	0.00	1	1	4	5	**22.22**	0.00
Major Ions														
Chloride	mg/L	1	1	1	1	1	0.00	0.00	1	1	1	1	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	9.2	9	2.20	0.00	0.8	0.58	28	28	0.00	**31.88**
Nutrients														
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.13	0.14	7.41	-	0.061	-	0.061	0.061	0.00	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.11	0.11	0.00	0.00	0.05	0.05	0.05	0.05	0.00	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.34	0.3	12.50	0.00	0.1	0.1	0.65	0.66	1.53	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.019	**62.07**	0.00	0.01	0.01	0.011	0.01	9.52	0.00
Total Metals														
Aluminum	mg/L	0.003	0.003	0.003	0.805	0.764	5.23	0.00	0.003	0.003	0.215	0.182	16.62	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0295	0.0312	5.60	0.00	0.0001	0.0001	0.0359	0.0338	6.03	0.00
Barium	mg/L	0.001	0.001	0.001	0.0385	0.0402	4.32	0.00	0.001	0.001	0.0527	0.0493	6.67	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000012	0.000014	15.38	0.00	0.00001	0.00001	0.00001	0.000012	18.18	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0204	0.0184	10.31	0.00	0.001	0.001	0.0052	0.0045	14.43	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00226	0.00227	0.44	0.00	0.0005	0.0005	0.00164	0.00149	9.58	0.00
Iron	mg/L	0.01	0.01	0.01	1.41	1.3	8.12	0.00	0.01	0.01	0.393	0.355	10.16	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00176	0.0018	2.25	0.00	0.0002	0.0002	0.00084	0.00079	6.13	0.00
Manganese	mg/L	0.001	0.001	0.001	0.133	0.139	4.41	0.00	0.001	0.001	0.129	0.119	8.06	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0021	0.0022	4.65	0.00	0.001	0.001	0.0041	0.0037	10.26	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0109	0.0109	0.00	0.00	0.001	0.001	0.0069	0.0061	12.31	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00025	0.00025	0.00	0.00	0.0001	0.0001	0.00054	0.00046	16.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000032	0.000032	0.00	0.00	0.00001	0.00001	0.000033	0.00003	9.52	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							4%	0%					0%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-57 Whale Tail 2023 IVR WRSF QAQC (ST-WT-34)

Parameter	Sample Date		8/6/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	331	334	0.90	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	100	100	0.00	0.00
TDS	mg/L	10	10	10	630	595	5.71	0.00
TSS	mg/L	1	1	1	160	130	20.69	0.00
Major Ions								
Chloride	mg/L	1	1	1	130	130	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	93	91	2.17	0.00
Nutrients								
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.86	0.91	5.65	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.71	0.75	5.48	0.00
Nitrate	mg N/L	0.1	0.1	0.1	4.63	4.59	0.87	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.068	0.064	6.06	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	4.31	4.36	1.15	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0357	0.0363	1.67	0.00
Barium	mg/L	0.001	0.001	0.001	0.11	0.112	1.80	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000086	0.000087	1.16	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0189	0.0194	2.61	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00972	0.0136	33.28	0.00
Iron	mg/L	0.01	0.01	0.01	8.6	8.88	3.20	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00448	0.00466	3.94	0.00
Manganese	mg/L	0.001	0.001	0.001	1.29	1.33	3.05	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0037	0.0038	2.67	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0191	0.0194	1.56	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00068	0.00067	1.48	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.000042	0.000047	11.24	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000101	0.000099	2.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.0198	0.0205	3.47	0.00
% Exceedance*							7%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-58 Whale Tail 2023 IVR WRSF QAQC (ST-WT-35)

Parameter	Sample Date		8/6/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	167	167	0.00	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	45	43	4.55	0.00
TDS	mg/L	10	10	10	320	305	4.80	0.00
TSS	mg/L	1	1	1	17	24	34.15	0.00
Major Ions								
Chloride	mg/L	1	1	1	6.7	7.4	9.93	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	120	110	8.70	0.00
Nutrients								
Ammonia (NH_3)	mg/L	0.061	0.061	-	0.15	0.26	**53.66**	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.12	0.22	**58.82**	0.00
Nitrate	mg N/L	0.1	0.1	0.1	10.8	10.7	0.93	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.08	0.08	0.00	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.25	0.258	3.15	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.00257	0.0026	1.16	0.00
Barium	mg/L	0.001	0.001	0.001	0.0804	0.0805	0.12	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000055	0.000053	3.70	0.00
Chromium	mg/L	0.001	0.001	0.001	0.0019	0.002	5.13	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00145	0.00145	0.00	0.00
Iron	mg/L	0.01	0.01	0.01	0.537	0.566	5.26	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00036	0.00039	8.00	0.00
Manganese	mg/L	0.001	0.001	0.001	1.21	1.22	0.82	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0015	0.0015	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.009	0.0089	1.12	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0011	0.00111	0.90	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.000033	0.000034	2.99	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							4%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-59 Whale Tail 2023 IVR WRSF QAQC (ST-WT-36)

Parameter	Sample Date		8/6/2023					
	Unit	MDL	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters								
Hardness, as $CaCO_3$	mg/L	0.5	0.5	-	99.8	107	6.96	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	67	73	8.57	0.00
TDS	mg/L	10	10	10	180	200	10.53	0.00
TSS	mg/L	1	1	1	2	2	0.00	0.00
Major Ions								
Chloride	mg/L	1	1	1	5.3	5.3	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.1	0.00	0.00
Sulfate	mg/L	0.5	0.5	0.5	61	62	1.63	0.00
Nutrients								
Ammonia (NH_3)	mg/L	0.061	0.091	-	0.36	0.35	2.82	-
Ammonia Nitrogen	mg N/L	0.05	0.075	0.05	0.3	0.29	3.39	**40.00**
Nitrate	mg N/L	0.1	0.1	0.1	0.67	0.6	11.02	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.01	0.00	0.00
Total Metals								
Aluminum	mg/L	0.003	0.003	0.003	0.0305	0.0392	24.96	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.061	0.0736	18.72	0.00
Barium	mg/L	0.001	0.001	0.001	0.0713	0.077	7.69	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.000038	0.000042	10.00	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.0016	**46.15**	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.00182	0.00197	7.92	0.00
Iron	mg/L	0.01	0.01	0.01	0.582	0.583	0.17	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.00037	0.00038	2.67	0.00
Manganese	mg/L	0.001	0.001	0.001	1.1	1.1	0.00	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.0013	0.0013	0.00	0.00
Nickel	mg/L	0.001	0.001	0.001	0.0163	0.0176	7.67	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.00022	0.00025	12.77	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00004	0.000042	4.88	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*							4%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.

Table 1-60 Whale Tail 2023 IVR Attenuation Pond QAQC (ST-WT-23)

Parameter	Sample Date		1/8/2023							7/3/2023						
	Unit	MDL	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)	Trip Blank	Field Blank	Lab Blank	Duplicate	Original	RPD (FD/N)	RPD (FB/LB)
Conventional Parameters																
Hardness, as $CaCO_3$	mg/L	0.5	0.5	0.5	-	171	168	1.77	-	0.5	0.5	-	149	157	5.23	-
Total alkalinity, as $CaCO_3$	mg/L	1	1	1	1	75	73	2.70	0.00	1	1	1	44	40	9.52	0.00
TDS	mg/L	10	10	10	10	240	225	6.45	0.00	10	10	10	335	360	7.19	0.00
TSS	mg/L	1	1	1	1	4	4	0.00	0.00	1	1	1	4	5	**22.22**	0.00
Major Ions																
Chloride	mg/L	1	1	1	1	44	43	2.30	0.00	1	1	1	60	60	0.00	0.00
Fluoride	mg/L	0.1	0.1	0.1	0.1	0.17	0.17	0.00	0.00	0.1	0.1	0.1	0.12	0.11	8.70	0.00
Sulfate	mg/L	0.5	0.5	0.5	0.5	64	63	1.57	0.00	0.5	0.74	0.58	46	46	0.00	**24.24**
Nutrients																
Ammonia (NH_3)	mg/L	0.061	0.061	0.061	-	2.5	2.5	0.00	-	0.061	0.061	-	0.28	0.35	**22.22**	-
Ammonia Nitrogen	mg N/L	0.05	0.05	0.05	0.05	2.1	2	4.88	0.00	0.05	0.05	0.05	0.23	0.29	**23.08**	0.00
Nitrate	mg N/L	0.1	0.1	0.1	0.1	3.89	3.82	1.82	0.00	0.1	0.1	0.1	2.73	2.7	1.10	0.00
Nitrite	mg N/L	0.01	0.01	0.01	0.01	0.096	0.088	8.70	0.00	0.01	0.01	0.01	0.062	0.063	1.60	0.00
Total phosphorus	mg P/L	0.001	0.001	0.001	0.001	0.0049	0.0051	4.00	0.00	0.001	0.001	0.0012	0.003	0.0028	6.90	18.18
Total Metals																
Aluminum	mg/L	0.003	0.003	0.003	0.003	0.0755	0.0811	7.15	0.00	0.003	0.003	0.003	0.0813	0.101	21.61	0.00
Arsenic	mg/L	0.0001	0.0001	0.0001	0.0001	0.0636	0.0644	1.25	0.00	0.0001	0.0001	0.0001	0.0379	0.0399	5.14	0.00
Barium	mg/L	0.001	0.001	0.001	0.001	0.0756	0.0738	2.41	0.00	0.001	0.001	0.001	0.0568	0.0597	4.98	0.00
Cadmium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000022	0.000024	8.70	0.00	0.00001	0.00001	0.00001	0.00002	0.000019	5.13	0.00
Chromium	mg/L	0.001	0.001	0.001	0.001	0.001	0.001	0.00	0.00	0.001	0.001	0.001	0.0015	0.0018	18.18	0.00
Copper	mg/L	0.0005	0.0005	0.0005	0.0005	0.00511	0.00779	41.55	0.00	0.0005	0.0005	0.0005	0.00095	0.00099	4.12	0.00
Iron	mg/L	0.01	0.01	0.01	0.01	0.59	0.657	10.75	0.00	0.01	0.01	0.01	0.24	0.267	10.65	0.00
Lead	mg/L	0.0002	0.0002	0.0002	0.0002	0.00126	0.00186	**38.46**	0.00	0.0002	0.0002	0.0002	0.0002	0.00021	4.88	0.00
Manganese	mg/L	0.001	0.001	0.001	0.001	0.341	0.333	2.37	0.00	0.001	0.001	0.001	0.132	0.138	4.44	0.00
Mercury	mg/L	0.00001	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00	0.00001	0.00001	0.00001	0.00001	0.00001	0.00	0.00
Molybdenum	mg/L	0.001	0.001	0.001	0.001	0.0233	0.0228	2.17	0.00	0.001	0.001	0.001	0.01	0.0105	4.88	0.00
Nickel	mg/L	0.001	0.001	0.001	0.001	0.0233	0.0235	0.85	0.00	0.001	0.001	0.001	0.0153	0.0161	5.10	0.00
Selenium	mg/L	0.0001	0.0001	0.0001	0.0001	0.00023	0.00023	0.00	0.00	0.0001	0.0001	0.0001	0.00021	0.00021	0.00	0.00
Silver	mg/L	0.00002	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00	0.00002	0.00002	0.00002	0.00002	0.00002	0.00	0.00
Thallium	mg/L	0.00001	0.00001	0.00001	0.00001	0.000024	0.000022	8.70	0.00	0.00001	0.00001	0.00001	0.000024	0.000026	8.00	0.00
Zinc	mg/L	0.005	0.005	0.005	0.005	0.0237	0.0308	**26.06**	0.00	0.005	0.005	0.005	0.005	0.005	0.00	0.00
% Exceedance*								3%	0%						3%	0%

Footnotes:
RPD = Relative Percent Difference; MDL: Method Detection Limit
All value "<DL" have been replaced by "DL".
* Percentage of parameters exceeding the QAQC objectives for one sampling event which corresponds to grey shaded cells.
Bold values correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are within 10x the MDL.
Grey shaded cells correspond to a RPD higher than 20% and for which concentrations of parent and duplicate samples are above 10x the MDL.
Italic values correspond to a RPD higher than 20% and for which one of the result is within 10X the MDL and the other one exceeds 10x the MDL.